

63.9

Australia
1927

Gates' Book of **FODDER & GRAZING CROPS**

LIBRARY
RECEIVED
★ OCT 31 1927 ★
U.S. Department of Agriculture



A HEAVY
CROP OF
SACCALINE
SORGHUM

INSET SHOWS SUCCULENT PITHY STEMS, NATURAL SIZE.

YATES' BOOK OF SPRING, 1927 FODDER and GRAZING CROPS

CONTENTS

	PAGE
Artichokes.. .. .	16
Barley	17
Beans	18
Beet (Sugar)	15
Bird Seeds	23
Buckwheat	16
Burnet (Sheeps)	16
Calendar	2
Carrot (Field)	15
Clovers	6
Cow Peas	8
Fodder Trees	20
Grain (Seed)	17
Grain Sorghum	15
Grasses, Pasture	3-4
Grass Seed Mixtures—See inside back cover	
Implements	22-23
Kudzu Vine	8
Lucerne	7
Lupins	9
Maize	12-13
Mangolds	15
Manures	24
Market Garden Crops	18-19
Millet	13
Mustard	16
Oats	17
Peas, Field	10
Peas, Market	19
Peanuts	9
Potatoes—See folder enclosed.	
Pumps (Spraying)	21
Pumpkins	18
Rape, Sowing	10
Root Crops	15
Rye Corn	17
Saltbush	16
Seed Sowers	24
Shade Trees	20
Sorghums	14
Soy Beans	8
Sprays and Pumps	21
Sudan Grass	11
Sundry Fodder Crops	16
Sunflower	16
Swede Turnips	15
Tares	9
Tick Beans	9
Trees	20
Turnips	15
Velvet Beans	9
Wheat	17

TERMS AND CONDITIONS OF SALE

PRICES—

We do not print prices in this Descriptive Catalogue as values fluctuate, and some of our supplies have not been received into store at time of going to press.

All charges are as set out in our Current Price List of Farm Seeds at time of booking order unless specially quoted otherwise.

The Price List now current is sent you herewith, and later issues will be posted promptly on receipt of enquiry.

DELIVERY—

We deliver Seeds on rail or wharf Sydney, after which Seeds are on customer's account and at his risk. Orders sent by goods train are consigned carriage forward (except to unattended platforms), unless we are otherwise instructed at time of order.

Delivery within the Suburban area of Sydney will be made of Farm Seeds, Seed Potatoes, Manures, and Garden Sundries, at the following charges :—28lbs. and under, 9d. ; 56lbs. and under, 1/- ; 2/- per cwt.

FORWARDING INSTRUCTIONS—

Please give full and careful directions with each order and we will do our utmost to comply with them. When no instructions are received we send according to our judgment.

POST TOWN and SIGNATURE—

Be sure your order bears these particulars before posting. Where postal address is different to address to which goods are to be forwarded please give both.

REMITTANCES—

Orders should be accompanied by remittance for the approximate value of goods, and freight to be included when order is to be sent by coastal steamer, passenger train or by rail to unattended platforms.

Remittances should be sent by Money Order, Postal Notes or Cheque (on country cheques please add exchange).

Our terms for Agricultural Seeds are strictly Nett Cash. Grass and Fodder Seed (except Seed Grain) are invoiced at net weights and bags charged for. This is to buyer's advantage.

CORRESPONDENCE—

We are always pleased to advise customers and assist them with any information at our disposal, but we ask that letters of enquiry be as concise as possible, and that they be written separately from orders to avoid possible confusion and delay.

CONDITIONS OF SALE

And Non-Warranty—

We believe that all Seeds Bulbs and Roots sold by us are of the description and kind specified by us at the time of sale but owing to the practical impossibility in many cases of being certain of this we give no undertaking that such Seeds Bulbs or Roots will correspond with the description under which they are sold and we make all sales subject to this condition. We further give no warranty expressed or implied as to their growth description quality or productiveness and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms they are at once to be returned to us and any money paid to us will be refunded.

ARTHUR YATES & CO. LTD.

— SUPPLIERS OF RE-CLEANED AND TESTED FARM SEEDS —

184-186 SUSSEX STREET, SYDNEY, N.S.W.

Hay and Chaff Exhausted

STATE MUST GROW FODDER CROPS

A COMBINATION of unfavourable seasonal conditions with a heavy increase in the cost of production has caused a serious shortage of fodder reserves, particularly in New South Wales and, to a lesser extent, in other parts of the Commonwealth; and it is becoming increasingly difficult to feed the very heavy stocking of sheep in this state. That such a condition should arise at a time when dry weather is prevailing and perhaps foreboding another drought is little short of a calamity.

It would seem wise therefore for those in a position to do so, to heed the advice of the New South Wales Department of Agriculture, and consider the planting of extended areas of suitable, quick-growing summer fodder crops. It is probable that the product, whether in the form of grazing, hay, or ensilage, will bring a good price and it will assist in alleviating what may become a State-wide fodder shortage.

EARLY SUMMER CROPS

It is in such a season as this that Summer Fodder Crops fill the need that nothing else can. With the variety of such crops now available it is possible to select them suited to the purpose required. Probably Sudan Grass will be most in demand for this purpose. With its quick germination and growth, persistent stooling habit and drought resistance, it is hard to excel. The Millets are another branch of the grass family which are exceptionally quickly and easily grown; the two main varieties are Japanese for grazing and hay, and Hungarian the best hay sort because of its fine stalk.

Among the leguminous crops Cow Peas and Field Peas are of proven worth, while Soy Beans are now being sown where only a year or two ago the crop had not been known. In districts where the rainfall is a little too low for Maize, Sorghums have their particular value. They have wonderful adaptability to different soils and climates and will produce big yields of splendid fodder where maize would probably fail. With the present increasing knowledge of the advantages of fodder crops, and with such a wide range from which to choose, farmers can reasonably expect that an abundance of feed will be available in the early summer. We send you this 1927 Edition of Our Book of Fodder Crops, confident that it will be of assistance when deciding the cropping to be undertaken.

Spring, 1927.

ARTHUR YATES & CO., LTD.

YATES' FARM CALENDAR

Approximate times for Sowing are denoted by—

† for moderately warm climates where Oranges thrive.

* for cool climates, say where English Fruits thrive.

The most suitable times for sowing are very largely influenced by local conditions and seasons, and these and any local experience available should always be taken into consideration.

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Artichoke, Jerusalem	..	..	..	..	..	†*	†*	†*	..	..	..	..	Peas, for Garden	..	†	†	†	†	†	†*	†*	†*	†*	†*	†
Barley, English	..	†*	†*	†*	†*	†	..	..	..	..	..	..	" " Market	..	†	†	†	†	†	†*	†*	†*	†*	†*	†
Barley,	..	..	..	..	..	..	..	..	..	..	..	..	Pumpkin	..	..	..	..	..	..	..	..	..	..	..	..
(Other varieties)	†*	†*	†*	†*	†*	†*	†*	..	..	..	..	..	Potatoes	..	†*	†	..	..	..	†	†*	†*	†*	†*	*
Beet, Sugar	..	..	..	..	..	..	..	..	†*	†*	†*	†*	Rape	..	..	†*	†*	†*	†*	..	†*	†*	..	..	..
Beet, Silver (Field)	..	..	†*	†*	†*	..	..	..	†*	†*	†*	†*	Rye Corn	..	..	†*	†*	†*	†*	..	..	..	..	..	..
Buckwheat	..	..	..	..	..	..	..	..	†	†*	†*	..	Rhodes Grass	..	†	†	..	..	..	..	..	..	†	†	..
Canary	..	..	*	†*	†*	..	..	..	..	..	..	..	Sainfoin	..	..	*	*	*	..	..	..	..	..	..	..
Carrot (Field)	..	..	†	†	..	..	..	†*	†*	†*	..	..	Saltbush	..	..	†	†	†	..	†	†	†	..	..	..
Cabbage (Cattle)	..	*	*	*	..	..	..	..	..	..	*	..	Shallots	..	..	†	†	†	†	..	..	..	..	..	..
Chicory	..	..	†*	†*	..	..	..	..	†*	†*	†*	..	Sheeps Burnet	..	..	†*	†*	†*	†*	..	†*	†*	..	..	..
Clover (Sorts)	..	..	*	†*	†*	†*	..	..	..	..	..	..	Sorghums & Millets :	..	..	..	..	..	..	..	..	..	..	..	..
Couch Grass	..	..	..	..	..	..	..	†	†	†*	†*	†	Saccharatum	..	†*	†	..	..	..	..	†	†*	†*	†*	†*
Cow Pea	..	..	..	..	..	..	..	..	†	†	†	†	Saccaline	..	†*	†	..	..	..	..	†	†*	†*	†*	†*
Grasses, Pasture	..	..	†*	†*	†*	†*	..	*	*	..	..	..	Planters' Friend	..	†*	†	..	..	..	..	†	†*	†*	†*	†*
Kale, Thousand Headed	..	†*	†*	†*	..	..	..	..	..	..	..	*	Early Amber Cane	..	†*	†	..	..	..	..	†	†*	†*	†*	†*
Kale, Chou Moellier	..	†*	†*	†*	..	..	..	..	..	..	..	*	Millet, Fodder V'ties	..	†*	†	..	..	..	..	†	†*	†*	†*	†*
Linseed (Flax)	..	..	..	..	†*	†*	†*	†*	..	..	..	..	Millet, Broom	..	..	..	..	..	..	..	†	†*	†*	..	..
Lucerne	..	..	†*	†*	†*	†*	..	†*	†*	†*	..	..	Grain Sorghums	..	..	..	..	..	..	..	†	†	†	†	..
Lupins	..	..	†*	†*	†*	†	†*	†*	†*	*	..	..	Soy Beans	..	†	..	..	..	..	..	†*	†*	†*	†*	†*
Maize, for Grain	..	..	..	..	..	..	..	..	†	†	†	†	Sudan Grass	..	..	..	..	..	..	..	†	†*	†*	†*	†*
Maize, for Fodder	..	†	†	..	..	..	..	..	†*	†*	†*	†*	Sunflower	..	..	..	..	..	..	..	†	†*	†*	†*	†*
Mangel	..	..	†	..	..	..	..	..	†*	†*	..	..	Swede	..	†*	†*	..	..	..	..	..	..	..	*	..
Mangel, Half Sugar	..	..	†	..	..	..	..	..	†*	†*	..	..	Tagosaste	..	..	†*	†*	†*	..	..	†*	†*	..	..	..
Millet (See Sorghum)	..	..	..	..	..	..	..	..	..	..	..	..	Tares	..	..	†*	†*	†*	†	†	..	..	..	..	..
Mustard	..	..	†*	†*	†*	..	†*	†*	†*	..	..	..	Tobacco	..	..	..	..	..	..	..	†	†	..	..	..
Melon, Cattle	..	..	..	..	..	..	..	..	†	†	..	..	Turnip (Field)	..	..	†*	†*	†*	†*	..	..	..	..	..	..
Oats, for Fodder	..	*	†*	†*	†*	†*	†*	†*	..	..	..	..	Velvet Beans	..	..	..	..	..	..	..	†	†	†	†	..
Oats, for Grain & Hay	..	..	†	†*	†*	†*	†*	†*	..	..	..	..	Wallaby Grass	..	..	..	..	..	..	..	..	..	..	..	..
Paspalum	..	†*	†*	†*	..	..	..	..	†	†*	†*	†*	(Danthonia)	..	..	†*	†*	†*	..	†*	†*	..	..	..	..
Peanuts	..	..	..	..	..	..	..	..	†	†	†	..	Wheat, for Fodder	..	..	*	†*	†*	†*	..	†*	†*	..	..	..
Peas, Field, for Fodder	..	†*	†*	†*	†	†*	†*	†*	†*	*	..	..	Wheat, for Grain	..	..	..	†*	†*	†*	..	..	..	..	..	..
" " Soiling	..	†*	†*	†*	†	†*	†*	†*	†*	*	..	..													

MODERN METHODS OF SEED CLEANING

We have built up in our own warehouse what is undoubtedly the largest and most complete plant in Australia for the cleaning and dressing of Seed ; much of this is of our own design and therefore particularly suited to our purposes. The proportion of farmers who realize the folly of sowing unmachined farm seeds is now very high and is ever increasing, and in consequence of this we are continually adding to and improving our plant to cope with the demand.

We have installed this year an additional and an entirely new type of machine, which, in conjunction with the present machines, will make possible still greater strides in eliminating weed seeds and foreign matter.

We have at present eight complete series of machines all electrically driven and occupying some 6,000 square feet of floor space. They have a capacity of 18 to 20 tons of cleaned seed per day, and for the greater part of the year the whole plant is working at full pressure.

The main principles employed in modern Seed Cleaning are :—Revolving Cylinders, Wind Blast, Surface Attraction (e.g., Velvet Rollers), Brushing. Each of these methods serves a particular purpose, but it is the continuation and the co-relation of two or more that mean clean sample

and it is here that skill and long experience count. All this machinery and our long experience is at your service for a small extra charge over what must be paid for rough dressed Seed. Is it not worth it?

BUSHEL WEIGHTS

We show herewith the weights per bushel as standardised under the N.S.W. Weights and Measures Act. Many of the lines mentioned (such as Clovers and some of the Grasses) are not usually priced or sold by the bushel, but in all cases where customers order bushel weights we will reckon the number of pounds to the bushel as stated herewith.

	Lbs. per Bush.		Lbs. per Bush.
BEANS	60	HUNGARIAN	
BARLEY	50	MILLET	60
BROOM MILLET	50	LUCERNE	20
BUCKWHEAT	50	MAIZE	56
CLOVER :		OATS	40
Red or White	20	PEAS	60
GRASSES :		RYE CORN	60
Couch	20	SORGHUM	60
Cocksfoot		TARES or	
Paspalum		VETCHES	60
Rib and Rye		WHEAT (Seed)	60

PASTURE GRASSES

THESE four varieties, but especially *Paspalum Dilatatum* and Rhodes Grass, are very extensively used in our dairying districts, while Rhodes Grass will also succeed well in many parts of our Western Country where the elevation is not great. They should be sown in late spring, summer or early autumn when the weather and soil conditions are favourable for germination and quick growth.

RHODES GRASS (*Chloris gayana*)

A very strong growing grass, which, rooting at every joint, soon covers a large area. About the only grass that will hold its own with *Paspalum*. Excellent for moist situations and hot climates, but succeeds well in a large range of situations and climates, except where heavy frosts are experienced. It is quick germinating after rain and makes growth rapidly and is very palatable to all stock. When well established it is remarkably drought resistant. It is very largely used for surface sowing after clearing and burning off scrub in the coastal areas, and for this purpose there is nothing better. In all the dry inland districts of Queensland Rhodes Grass is proving of the utmost value and has also been of great value in Western N.S.W., not only in mixed pastures but as a special grazing crop when planted with Lucerne, say four pounds of Rhodes and two or three pounds of Lucerne per acre. When sown alone six to ten pounds per acre is sufficient if good quality seed is used.

COUCH GRASS (*Cynodon dactylon*)

Stands heat and drought well and is specially suited for hot, dry districts where other grasses do not succeed. It is also of great value for binding loose soil, sand banks, etc. It should not be planted near cultivation paddocks, as it is difficult to eradicate. Sow in warm weather after good rains. Sow ten pounds per acre.

In warm climates this grass is very largely used for lawns, making a close, fine turf, and withstanding considerable heat and drought. For this purpose a pound of seed is sufficient for about ten yards square.

PASPALUM DILATATUM (Yates' Prime "Hand Shaken")

Does well planted in conjunction with Rhodes Grass. The seed should be sown during spring, summer, or early autumn, say from August to April. Succeeds best where moist warm conditions prevail, but will prove a very profitable crop even where a moderate rainfall is experienced, and under these latter conditions it is not so likely to become rank and difficult to deal with. Once introduced into swampy land *Paspalum* soon covers it with a thick mat and gives good grazing where the land would otherwise be useless. It is an excellent practice to sow a few pounds of Perennial Red Clover and White Clover with the *Paspalum*, as these provide feed when the latter is more or less dormant. Sow ten to twelve pounds of *Paspalum* per acre. Special quotes for large quantities.

KIKUYU GRASS (*Pennisetum clandestinum*)

We undoubtedly have in Kikuyu a grass of which the quality and capabilities are hardly yet realised by farmers and pastoralists. It is a native of British East Africa and is a perennial grass with a strong system of surface and underground runners. On this account it is a very quick spreading variety and also remarkably drought resistant.

It should succeed and be profitable to grow in almost any part of New South Wales where the rainfall is 20 inches or over. It is of particular value for poor clay or sandy soils where it is usually difficult to grow anything but weeds, though naturally the richer soils will give correspondingly better results.

The underground runners quickly root at the joints then send up fresh growth to a height of 1 ft. or 2 ft. or even more in rich localities.

Under coastal conditions it is the quickest growing grass we have, growth taking place continuously, except where frosts are experienced.

On the tableland country and throughout the slopes it will succeed well, and in Queensland also it is creating widespread interest. It will, we think, be found a useful grass in many parts of Victoria, particularly where *Paspalum* is found.

It does not seed in Australia, therefore it can only be distributed by means of rootlets which we can supply at any time from late winter on. It is recommended to plow the land, opening up furrows six feet apart, and dropping in the rootlets every three feet. At this rate about 2,500 plants will suffice for one acre. It adds to the value of the pasturage and gives a more balanced ration if some of the clover family can also be introduced, and we suggest $\frac{1}{2}$ lb. White Clover or Subterranean Clover, and in more favored districts Perennial Red Clover.

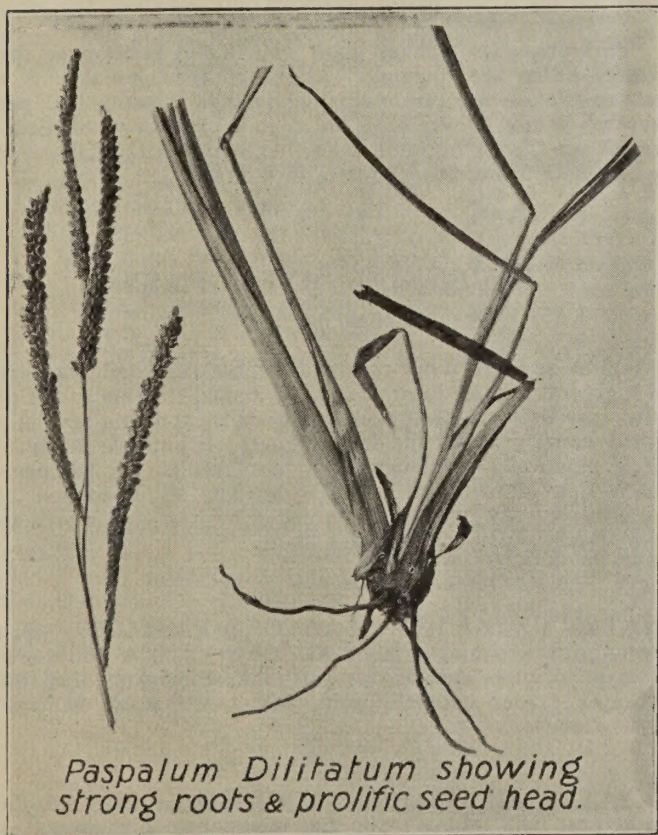
For prices, see Current Price List.

Approximate cost of Postage and Packing—Per 100, 1s. ; per 50, 9d.

PASPALUM COMPRESSUM

(Also known as Durrington Grass or Carpet Grass)

A dwarf compact growing variety of *Paspalum*, proving of great value for poor sandy stretches of country where *Paspalum Dilatatum* does not do well; suited for warm climates. Sow five pounds per acre.



PASTURE GRASSES

THE varieties in the following list are introduced grasses (except Wallaby and Mitchell Grass) which have proved to have a distinct value in the temperate parts of Australia with a good average rainfall. They can be recommended for the New South Wales coast and tablelands and for districts with similar climatic conditions in other States. Autumn is the best time for sowing these varieties, but sowings may also be made in the Spring in suitable situations, if the weather is favourable. As regards Kikuyu Grass, and Elephant Grass, these are distributed by roots or cuttings only, and these can be put out with advantage from early Spring onwards.

ITALIAN RYE GRASS

(*Lolium italicum*)

This grass is only a biennial, but if not grazed too close and is allowed to seed itself (but not until after the first year) it will last for several years. It is of great value as a hay crop sown alone; with clovers or with grain sow up to two bushels per acre.

YATES' EXTRA HEAVY RE-MACHINED ITALIAN

—This is a first-class strain, thoroughly re-cleaned, of the ordinary Italian, and has given excellent results wherever grown.

WESTERWOLDICUM RE-MACHINED.—This is a giant variety of Italian Rye Grass and is earlier and more vigorous. Very hardy.

TALL OAT GRASS

(*Avena elatior*)

It has a deep rooting system, which protects it against drought, and it quickly spreads when once established. It is a good winter grass and a quick grower. Stock may at first be averse to it, but when used to it eat it readily, especially if sown in mixture with other grasses.

PRAIRIE GRASS

(*Bromus unioloides*)

This is a most valuable grass particularly for the dairyman, as it gives wonderful yields of fodder in suitable country and cows milk splendidly on it. It is a first-class pasture grass and also makes excellent hay. Owing to its palatability all stock are very fond of it, and as it will not stand continuous heavy grazing it should be spelled regularly, and this is well worth while owing to the extra yields thereby obtained. It grows luxuriantly during the winter providing feed when badly needed. It grows to best advantage in rather loose rich soils. Sow up to two bushels per acre.

YATES' FINEST BRIGHT RE-MACHINED.—A heavy grade plump seed of a very high percentage of germination and purity.

COCKSFOOT

(*Dactylis glomerata*)

This is one of our most useful introduced grasses and with Perennial Rye Grass, Fescues and one or two others, should form the bulk of all artificial pastures in the more favored coastal and tableland country. It is one of the hardiest of the introduced grasses, withstanding extremes of climate to a wonderful extent. It is inclined to grow tussocky, but judicious grazing and occasionally allowing it to seed itself down will counteract this. If sown alone one and a half bushels per acre should be ample.

YATES' EXTRA HEAVY RE-MACHINED.—This is heavy thoroughly machine-cleaned seed, which will give a good germination and a quick and even catch.

PHALARIS BULBOSA

For several years the supply of this most valuable grass has been insufficient to meet the demand, but for this season we have made special arrangements and hope to have ample supplies throughout the season.

Each year Phalaris Bulbosa is required in greater quantity as its merits become better known to farmers and graziers on the tableland and coastal country. It is considered by many to be a superior grass, for our conditions, to Rye Grass and Cocksfoot. It has a particular value in its ability to withstand hard cold conditions; in fact, it makes wonderful growth in the winter months. It is a grass we particularly recommend for the tableland and coastal country of N.S.W., and for similar conditions in other States. It is succulent, palatable, and a strong grower. It is deep rooting, and when once established is drought resistant, and forms a splendid permanent pasture, which stands hard grazing, and is excellent for sheep. When judiciously grazed it forms a close turf.

Perhaps nowhere else in the State has such interest been taken in pasture improvement as on the Northern Tableland north of Armidale, and practically the whole district is unanimous concerning the merits of Phalaris Bulbosa as an all the year round pasture grass for their conditions. In grazing trials over the last four years this wonderful grass has carried two and a quarter sheep per acre continuously and without any spells; and, further, these sheep grew much better and put on more weight than those on the native pasture carrying only one sheep per acre.

This grass also makes good hay if cut as soon as the flower heads are forming. About 10 lbs. per acre is a reasonable sowing, and we suggest that about 2 lbs. per acre of White Clover or $\frac{1}{2}$ lb. to 1 lb. per acre of Subterranean Clover be included either with Phalaris alone or with Phalaris and other grasses in mixture.

PERENNIAL RYE GRASS

(*Lolium perenne*)

On those parts of our coastal and tableland country where a high and regular rainfall may be looked for this is one of the very best of the introduced grasses, and is a specially good winter grass for the dairy-farmer. In suitable localities it is practically permanent, but best results are obtained with this as with all artificial grasses by re-sowing at intervals of say five to ten years. Sow one and a-half to two bushels per acre if used alone.

YATES' EXTRA HEAVY A.Y. OLD PASTURE.—Is a wonderful perennial variety saved in a dry climate and therefore much more suitable for Australian conditions than the cheaper grades generally sold, which are saved in cool, wet climates.

YATES' HEAVY RE-MACHINED.—This is the next best long lasting strain and is superior to a great deal of the Rye Grass offered.

PASTURE GRASSES (Continued)

WIMMERA RYE GRASS

(*Lolium subulatum*)

This is a comparatively new grass and is being used with great success over a large portion of the wheat area of Victoria and Southern and South-Western New South Wales. In many ways it is similar to Italian Rye grass, the main difference being its great drought resistance. It is an annual and will provide green feed for seven to eight months in the colder parts of the year, after which, although it dries off, it is very nutritious as dry hay, the seeds remaining attached to the dry straw for a long period. After the first sowing it will seed itself down every year, even though the land be cultivated for crop, and start away again with the first good autumnal rains.

We do not recommend sowing this on first-class wheat land which is regularly cropped, as it may interfere with the growth and be a little difficult to control, but on land of lighter type which requires periodical rests from cropping, or on lands which have been completely exhausted by continuous cropping, we confidently recommend it as a pasture grass of the very highest value. Sowing alone about one bushel (20-lbs.) per acre is sufficient, or if sown with the crop to provide pasturage on land which it is proposed to spell when the crop is off, as low as four pounds will probably be enough. If more is sown it may interfere with the growth of the crop.

This grass is particularly recommended for the Southern and South-Western portions of New South Wales and in other parts of the Commonwealth where good winter rains may be expected.

CHEWING'S FESCUE

A variety of Hard Fescue, which has been grown in New Zealand with success on poor, light, as well as heavier lands; it has formed a good sward where no other grass would succeed. It stands drought well, as its strong roots penetrate deeply into the ground. It is permanent and throws up a large amount of feed in the early spring, particularly good for sheep. We would recommend that a little of this grass be included in all mixtures for permanent pasture, or, if planted alone, allow 15 lbs. per acre.

TALL FESCUE

(*Festuca elatior arundinaceae*)

This grass has proved to be a distinctly valuable one, especially for poor land in our coastal districts. While it has not the feeding quality of, and is not relished by stock like, Rye Grass, Prairie and Cocksfoot (we do not recommend it for land which will grow these grasses), it stands drought and hardship better, keeping green when other grasses are burnt up, and affording excellent grazing when the sweeter grasses either will not succeed or are shrivelled up. We would recommend a proportion of this in all mixtures for poor, dry, or hilly land.

POA PRATENSIS

(Kentucky Blue Grass)

One of the best winter grasses for dry soils, yielding a large quantity of herbage in the autumn, winter and early spring. It dies right down in the summer, but soon springs again after rain. It has a creeping habit, resembling Couch, and, if once introduced, will become a permanency. The celebrated Blue Grass regions of America, so noted for their horses, take their name from this grass, which forms the bulk of the pastures there. As this grass is very delicate, and easily burnt up while in its younger stage, we recommend that it be sown in the early autumn only.

POA AQUATICA

(Water Meadow Grass)

This is used rather extensively on marshy land and swamps in Gippsland. The plant is fairly nutritious but rather coarse. We can usually supply root stocks.

MITCHELL GRASS

(*Astrebla*)

This is one of the best native grasses we have, and will yield a large amount of succulent herbage, of which stock are very fond. This grass is very nutritious, a good drought resister, and forms a permanent pasture. Requires well-drained land. Quickly responds to rainfall. If cut when it first shows the flower stem, makes excellent hay. Seed is only saved in favorable seasons, and we usually offer *Astrebla triticoides* and *Astrebla elymoides*. Sow two to three pounds per acre.

WALLABY GRASS

(*Danthonia*)

One of the hardiest of our native grasses. Grows in a wide variety of soils and climates. Especially adapted to the poorer soils unsuited to other grasses, splendid for sheep

MEADOW FESCUE

(*Festuca pratensis*)

An excellent grass for elevated districts and in good soils. Should be included in all mixtures, except for very dry soils. It is relished by all stock and makes excellent hay. It is perennial, early and nutritious.

ELEPHANT GRASS

(*Pennisetum purpureum*)

Although not strictly speaking a pasture grass, this recent introduction has proved to be a valuable acquisition and fodder plant of considerable value. This is a vigorous growing plant, attaining a height of 12 to 15 feet. It stands cutting well, tests made by the Department of Agriculture showing a return of 50 tons and more of green fodder per acre per year, and also that this grass is of good feeding quality and that stock relish it especially if not allowed to get too high and coarse. It may either be grazed or cut, and shows a very satisfactory food value by analysis. Milk yield and tests are well maintained. Elephant Grass is adapted to a wide variety of soils and climates and might well be tried out by progressive farmers, even if only on their poorer land. The cuttings should be planted three feet apart in and between the rows.

For prices, see Current Price List. Approximate cost of postage and packing—Per 100, 2/9; per 50, 1/9; per 25, 1/3; per 12, 9d.

TEFF GRASS

(*Eragrostis abyssinica*)

An annual summer growing grass in very great favour in South Africa, especially where summer rains are prevalent. Its rate of growth is astonishing and it may be cut twice or more during the season if sown early. Under good conditions it supplies excellent summer grazing and makes very fine hay. Sow 6 lbs. to 8 lbs. per acre broadcast. For Australian conditions we think Sudan Grass will give better results, and we only recommend trials of Teff Grass where there are ample summer rains. It must be re-sown every year.

AGROSTIS

These grasses are used fairly largely for lawns, golf greens, etc., and their value for pasturage is low except in cold, harsh situations. We stock—*A. canina* (Brown Top); *A. vulgaris* (Red Top); and *A. stolonifera* or *alba* (Creeping Bent or Fiorin).

OTHER GRASSES

We also stock the following, which, however, are of minor importance, except for special situations or purposes:—Timothy, Poa Trivialis, Poa Nemoralis, Meadow Fox Tail, Crested Dog's Tail, Yorkshire Fog, Rib Grass or Lamb's Tongue.

CLOVERS

The Clovers are a wonderful family of plants and supply a great need in Australian pastures, namely—Winter and Early Spring Feed. In addition their high protein content makes them good

flesh builders rather than fatteners, they make excellent hay, and are particularly valuable as soil renovators.

FARMERS, especially those in areas where a fair rainfall is experienced, are realizing more and more the great value of the Clovers as Soil-renovators, as well as fodder crops of the highest quality, either alone, in pasture, or sown with other green stuff or hay crops.

For renovating worn out land, and for keeping valuable farming land in proper condition, nothing will do more good than the Clover family (or, if prepared, other legumes, such as Field Peas, Field Lupins and Soy Beans, and in warm climates Cow Peas). Like all other legumes they have the power of gathering large quantities of nitrogen from the air and a proportion of this is left in the soil. When the crop is ploughed in the nitrogen is made available, while the foliage, stems and roots form necessary "humus," which gives "life" to the land.

The addition of one or other of the Clovers when laying down pastures or sowing green stuff or hay crops, will provide a much better balanced ration to the great benefit of the stock grazing it, and when the crop is done the Clover will often give a good picking for a considerable period, afterwards being ploughed in for green manure. With this latter method it must be understood that the amount of nitrogen in the soil is little more than maintained, as it takes this much of the plant to return the small amount of nitrogen derived from the soil and not from the air.

Clovers succeed best in good "sweet" land and usually respond well to superphosphate. Sow 12lbs. to 15lbs. per acre alone, or if with pasture grasses, 2lbs. to 3lbs. per acre.

Generally speaking, Clovers should be sown in the autumn, but in good seasons successful results can be obtained from spring sowing.

YATES' A.Y. SUPERFINE WHITE CLOVER

(*Trifolium repens*)

This is used perhaps more than any other for sowing down with Pasture Grasses. It spreads quickly, especially in moist situations. Widely used on the North Coast of N.S.W. in Paspalum and Rhodes Grass Pastures, giving a splendid pick during the winter, when these two grasses are more or less dormant. Succeeds in a wide variety of soils and climates.

YATES' SUPERFINE PERENNIAL RED CLOVER or COW GRASS

(*Trifolium pratense perenne*)

Succeeds best in the cooler tableland country, as it requires a fairly consistent rainfall. It is a vigorous grower, and splendid for milk production; under suitable conditions it will last several years. Recommended for sowing with Oats or in pasture with Paspalum or other grasses.

CRIMSON CLOVER (*Trifolium incarnatum*)

This is an annual, a quick grower, and will stand a great deal of hard grazing. It is useful as a stubble plant sown alone or with Rye Grass after the grain crop, when it will produce a heavy crop very early in the following spring.

ALSYKE (*Trifolium hybridum*)

Combines to some extent the qualities of Red Clover and White Clover. It will sometimes succeed where Red Clover does no good, and can be classed as permanent in suitable locations, one of the heavier yielding Clovers.

BERSEEM (or Egyptian Clover)

(*Trifolium Alexandrinum*)

An annual Clover which must be sown in early autumn, as it makes its growth during the autumn, winter and early spring months. Sown in early autumn in a favourable locality, it will give two and even three cuttings of valuable Lucerne-like greenstuff during the winter and early spring. Clay soils seem to suit it. Sow eight to fifteen pounds per acre on well rolled land.

YATES' A.Y. SUBTERRANEAN CLOVER

(*Trifolium subterraneum*)

This Clover should do well in this State on all parts of our coast and tablelands, and parts of the western slopes where the rainfall exceeds twenty inches.

It is only an annual, but as it produces most of its seed just below the surface of the soil (hence its name), it is in practice perennial, and once introduced and properly established, it is permanent.

We recommend sowing in all mixtures of grasses at the rate of $\frac{1}{2}$ to 1 lb. per acre. Sown with cereal crops, 2 lbs. per acre should be sufficient, while if sown alone on properly prepared land, from 4 lbs. to 6 lbs., and even up to 10 lbs. per acre may be planted, according to the quality of the land. Smaller sowings may be made if time is allowed for the clover to spread, which it does very rapidly.

BOKHARA CLOVER (or White Sweet Clover)

(*Melilotus alba*)

This is a Clover with a big reputation for renovating land for green manuring and for preparing land for the introduction of lucerne. The plant makes very big root growth and, being a biennial, dies out after the second year when the roots rot down very quickly.

Seeding does not take place until the second year, and so long as this is prevented there is no danger of the plant getting out of control.

Sow 8lbs. to 10 lbs. per acre broadcast, or 5lbs. in drills.

MEDICAGO DENTICULATA

(Burr or "Native" Trefoil)

This is an introduced member of the clover family, but has become so widespread that it has earned the title of "Native." It is now one of the commonest plants in N.S.W. and furnishes a tremendous amount of feed. It grows with the first good autumn rains, giving a heavy yield of lush green fodder throughout the winter and spring.

STRAWBERRY CLOVER

(*Trifolium fragiferum*)

An excellent variety for low, wet, swampy land subject to floods or inundations through the backing up of tide water. This plant has a trailing habit, and thrives where no other Clovers and a very few grasses will grow; in our opinion, it should be associated with Water Couch.

SHEARMAN'S CLOVER.—Similar to the above and probably a variation; root only of this variety; supplies very doubtful.

ENGLISH TREFOIL (*Medicago lupulina*)

An annual Clover succeeding in light dry soils, greedily eaten by sheep. It has good bold seed.

LOTUS (Varieties)

LOTUS CORNICULATUS (Birdsfoot Trefoil).—A deep rooting perennial Clover maturing the second year, and producing a large quantity of leafage.

LOTUS MAJOR.—Land that requires draining can often be improved with this Clover.

LOTUS ANGUSTISSIMUS.—A hardy Clover which does well in rough country and should be very suitable for sowing on burns.

MEDICAGO ORBICULARIS

(Burrless or Button Trefoil)

This is a variety of Trefoil Clover which has attracted attention in Tamworth and other Northern Districts. It is very similar in its growth and appearance to our Native Trefoil or Burr Clover, but the seed is not enclosed in a burr. It is an annual, but seeds itself so profusely that it comes up every spring.

LUCERNE THE KING OF FODDER CROPS

"The crop that gives a continual harvest without an annual ploughing or seeding"

IT IS A FACT worthy of note that Lucerne has been cultivated by man for over 2000 years.

This in itself shows the great value and usefulness of this hardy, long-lived perennial forage plant. As evidence of its adaptability it is now grown more or less extensively in every continent of the globe.

In our own country Lucerne has already become one of the foremost of our fodder and grazing crops. Each year the area under Lucerne is increased by tens of thousands of acres, and this increase is undoubtedly due to a now wider spread knowledge of its adaptability to varying situations, soils and climates.

For many years it was considered that Lucerne would not succeed unless sown on choice alluvial flats, but recent experience has shown this to be a fallacy, and that its restricted use in many districts was due to incomplete knowledge.

The point we would emphasise here is that the "range of adaptability" of Lucerne, once considered limited to rich alluvial flats, has now been proved to include any deep reasonably good agricultural land with a rainfall of at least twenty inches. On such areas good "grazing" Lucerne can be successfully grown, making the land capable of carrying a much heavier stocking, and affording a

wonderfully quick "shoot" after rain. Under suitable conditions in clean land, and where our best Re-cleaned has been planted, it will yield continuously, for an indefinite number of years. It is one continual harvest without an annual ploughing or seeding.

For many years we have made a great speciality of our Lucerne seed, and amongst keen, discriminating farmers our standard of quality, signified by the name, has become a tradition. Do not forget that when you sow Lucerne seed you are putting down a crop which you hope will yield you returns for several years. Is it not then good policy to do everything in your power to make it a success? With this ideal in mind, work your land well to obtain a fine, firm, clean seed-bed, and—this is just as important—use the BEST SEED OBTAINABLE.

Land that you intend putting under Lucerne should be fallowed long before sowing time, and kept well worked in order to eradicate weeds and to obtain a fine tilth. Lucerne seed, on account of its small size, requires a fine compacted seed-bed in order that the roots may get a grip of the soil particles. In addition, the seed should be very shallow in the ground, the lightest possible covering being all that is necessary.



**YATES' BROADLEAF
AY LUCERNE
GIANT-UPRIGHT**

**YATES' BROADLEAF
AY LUCERNE** in sealed bags is re-machined and tested seed of extra prime quality of a superior type of N.S.W. grown Lucerne, which is saved on selected farms in those districts in which, owing to special natural conditions, there has been evolved a long standing drought resisting strain, which has proved itself for Australian conditions.

Most of these farms have supplied the seed crop to us for many years past, and we know that it is of the true Broadleaf Giant Upright pedigree.

**YATES' BROADLEAF
AY LUCERNE** is supplied through our country agents in 25 lbs. and 50 lbs. net sealed bags, printed with our own brand, or will be supplied direct to farmers in whatever quantities required. Growers should exercise caution, and accept only packages closed with our metal seal, and branded as above.

WRITE FOR PRICES, STATING QUANTITY REQUIRED.

Sixteen to twenty pounds per acre is a fair sowing for good situations with a moist subsoil if sown broadcast; or ten to twelve pounds if drilled. In dry areas as low as six pounds is found sufficient.

LEGUMINOUS CROPS

While all these crops are of very great value as feedstuffs in some form or other, they have the additional advantage of being the best of "Soil Renovators" and of increasing the fertility of the soil. Their value for rotation, also for green manure, can hardly be overestimated.

SOY BEANS

Whereas the value of Cow Peas are well known and appreciated by most mixed farmers, owing to climatic conditions their general use is confined to the coastal parts of Northern New South Wales and Queensland. Soy Beans, while giving much the same sort of crop, do well under a much wider range of climatic conditions, and will thus, when better known and understood, be used to a very large extent.

The wider use of Soy Beans will enable the farmer to have a summer growing legume crop which will give a hay of the feeding value of lucerne and clover if grown alone, or they can be used to bring up the feeding value of the more generally used summer crops by planting a small proportion with the other seed; the farmer will thus get the wonderful feed value of the legume in summer as well as winter. When trying Soy Beans for the first time, too much reliance should not be placed on the results of the first crop, as owing to the special soil bacteria necessary for their best growth, the following crops are nearly always very much more vigorous than the first. Sow the seed about three to the foot in shallow drills two and a-half feet apart after danger of frost is over.

We can supply the following varieties:—

MAMMOTH YELLOW.—An old standard variety. One of the best for hay or seed, Very vigorous, growing over 3 ft., and thus gives a very large bulk of feed. It is medium late maturing.

LAREDO.—A medium late maturing variety giving exceptionally heavy bulk of feed. Laredo has slender branches and thus gives very good quality hay. In America this variety is largely replacing the Cow Pea, and we would strongly recommend it for trial on the coast of Northern New South Wales and Queensland.

BILOXI.—An upright variety, growing 4 to 5 feet high, covered with dense foliage, which does not shed easily. Gives a very heavy yield of beans and is therefore an excellent variety for growing for pigs. It is a very late maturing variety and needs a long season to grow to maturity.

WILSON'S EARLY BLACK.—A prolific early combination hay and seed variety. It has fine stems, which enable it to cure quickly for hay.

TARHEEL BLACK.—A little earlier than Mammoth Yellow. This variety is tall growing and of upright growth. Branches well close to the ground.

ITO SAN.—A new variety which promises well. Habit is bushy, erect and vigorous.

KUDZU VINE

(PUERARIA THUNBERGIANA).

We have had several enquiries for this. It is a perennial legume best adapted for poor soils near the coast. We can only supply in packets, and recommend that the seeds be sown in a good patch. The plants will quickly grow and send out long runners which root at every joint. These can then be severed and transplanted, and the required area thus quickly covered. Packets, 1s.



Showing the dense growth made by a crop of Soy Beans

COW PEAS

Cow Peas form perhaps the most valuable crop for green soiling that we have for the coastal and warm parts of this country. They are extensively used for this purpose in the sugar fields of Queensland, and will doubtless form the main legume for the crop rotation now being found so necessary in connection with maize growing, especially on our North Coast. Cow Peas make excellent pasture, fine hay and splendid ensilage (especially in conjunction with other green crops), and as well as all this do more than almost any other crop to improve the soil. The Cow Pea is an annual, making its whole growth during the summer months. In general appearance, habit of growth and character, and composition of seeds, it resembles fairly closely the ordinary Kidney Bean. We urge farmers to consider the advantages of sowing Cow Peas with Maize, Sorghums and Millets, either for green fodder or ensilage. Not only will the combined crop make a better balanced ration, but the total yield will be increased and also the condition of the land improved. Sow in spring after frost is over in drills 3 ft. apart and drop peas at intervals of 9 to 12 inches in the drills. Sown in this manner, 10 lbs. of seed should well cover an acre, broadcast $\frac{1}{2}$ to 1 bus. of seed is required. Supplies of Cow Peas, owing to difficulty of harvesting, are always uncertain, and prices vary considerably. We expect to have the Black Seeded and the Clay Coloured.

Mr. K. D.—, Broke Road, Singleton, 7/2/27:—"Your Seed Corn (Hickory King, Red Hogan) and Sacaline is excellent. I got a better stand from your seed than I ever had. Thanks."

Mr. W. H. R.—, Gosford, 15/6/26:—"The Cape Barley Seed arrived in excellent order and condition and has given wonderfully uniform germination and growth."

LEGUMINOUS CROPS—Continued

TARES OR VETCHES

Grey, Black and Golden

These are important members of the legume family, and are largely grown both for fodder and as a winter green manure. In both cases it is preferable to sow in conjunction with a cereal crop, though they may be used alone as green manure. When used for feed the combination of legume and cereal gives a well balanced ration, and the upright growth of the cereal supports the Tare, which is a climbing or trailing plant. Cows milk well on Tares and it is an excellent fattening crop for pigs.

In some of the North Coast districts this crop, either alone or in combination with Rye, Oats, or Barley, is sown on the Maize flats, fed off during the winter and in the spring the residue ploughed in for green manure.

Not only does this provide excellent winter fodder, but it also maintains the fertility of the flats, thus giving better yields in the succeeding crop.

In order to encourage a quick and heavy growth, we advise the application of Superphosphate with this crop.

Tares succeed in a wide variety of soil and districts, so long as there is a good winter rainfall. Seed should be sown in early autumn from February onwards.

We would suggest a sowing of from $\frac{1}{2}$ bushel to 1 bushel Tares with a bushel or $\frac{1}{2}$ bushel of Oats, Rye, or Barley (or a mixture of the three).

The ratio will vary according as the main crop is intended to be the cereal or the legume. The Department of Agriculture recommend 30 lbs. Tares with a bushel of grain. The seed can be mixed and broadcasted, or it can be drilled in. If sown alone, up to 2 bushels per acre is ample.

PEANUTS

As well as being in great demand for human consumption, the Peanut is being increasingly used as a stock fodder, especially for pigs. This crop may be successfully grown in any except the coldest parts of the State. The plant grows usually from 12 to 18 inches high, and has the peculiar habit of maturing its seed in the ground. They require a rich sweet soil, which should be well worked to a depth of four to six inches, but kept firm and solid under that depth; this keeps the nuts near the top and so facilitates harvesting. Sow 30 to 40 lbs. of nuts, or say 10 lbs. shelled seed per acre. When ripe, lift the plants and harvest the nuts, which are produced below the ground. The Peanut plant may be grazed, the top made into hay, or used as a soil renovator; and is valuable as a dry farming crop. We usually have in stock supplies of tested growth of the small podded local grown variety and the large podded North China nut. Customers are asked to state their preference when ordering. The small podded variety is the more useful for forage purposes on account of its upright growth, which, however, makes it necessary to throw a little earth on the centre of each plant to induce the vines to penetrate the soil. This greatly increases the yield.

HORSE OR TICK BEANS

Somewhat similar in appearance of plant and habit of growth to the garden Broad Bean. They are grown in cool climates for the seeds, which form excellent foodstuff. When well harvested the haulm also makes useful fodder. Sow about two bushels per acre in the autumn and early winter.

VELVET BEANS

A valuable plant for moist warm climates, such as the North Coast of New South Wales and the Coastal districts of Queensland.

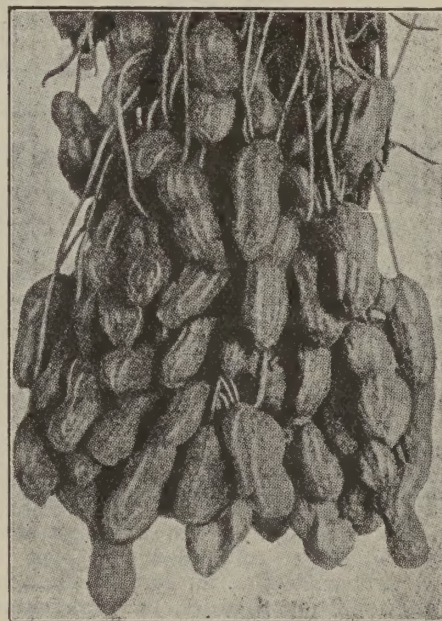
When conditions are suitable, it is the rankest grower and heaviest yielder of any of the legumes. As a soil renovator it is excellent, but it will be valued even more for the magnificent grazing it affords and for the high feed value of the Beans. It is also recommended as a very suitable crop to sow with maize, either for grazing or for ensilage, in this case the Beans should be sown about a month later than the maize. With this method the vines are supported by the maize stalks, and an enormous amount of fodder is obtained. If sown alone, plant in rows four feet apart and about 18 inches between the seeds, or two or three seeds in hills four feet apart in rows five feet apart.

We have supplies of the following:—

SPECKLED VELVET BEANS.—One of the earliest sorts and therefore suitable for the lower coastal districts, especially for forage and soil improvement.

OSCEOLA VELVET BEANS.—Another early sort with large pods and very vigorous. Comparatively free of furze on the pods.

BUNCH VELVET BEANS.—Of less vining habit than the other varieties and rather later. A good sort for growing with maize.



Peanuts are heavy yielders

ANNUAL BLUE LUPINS

For green manuring these provide one of the best crops for ploughing in, especially in our cooler districts. When practicable we recommend autumn sowing, but they will succeed if sown in early spring. Lupins grow very rapidly and produce an immense amount of top. Sow at the rate of 2 bushels per acre. For small trials 3 lbs. will sow an area of 100 square yards (10 yds. x 10 yds.)

Mrs. F. H.—, Mayfield, Glenfield, 15/4/26 :—"The Lucerne Seed you sent up here about six weeks ago I had planted just 48 hours before the rain came and is now four weeks old. It was out of the ground in three days, now it is about 18 inches high and looks splendid and not a weed or piece of grass to be seen."

LEGUMINOUS CROPS—Continued

FIELD PEAS

This is a crop which we consider does not receive the attention it deserves. It is an excellent fodder for sheep, pigs and other stock, but we think its main value is when grown as a combined "Legume-cereal crop." For this purpose Field Peas are excellent sown with oats or wheat. If sown early with oats they can be grazed off once or twice during the winter and then let go dry for hay. The addition of the pea straw to the oaten hay makes a much more balanced ration and is very palatable to stock.

If sown alone they may be grown for topping off to maturity and when cut fed to pigs, or they may be cut green, just after flowering, for cattle or pig feed.

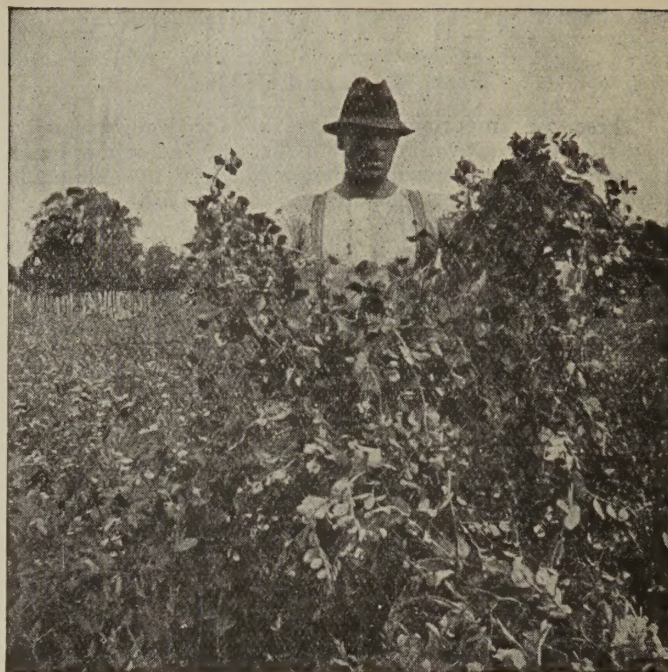
This crop is classed among the best of the soil improving crops. Even if only the roots are ploughed in the soil is greatly enriched.

Field Peas, though not so hardy as Tares or Vetches, are earlier maturing, usually cheaper in price, and one grower reports that when grown with a cereal it will stand the trampling of grazing cattle better than will tares under similar conditions. Field Peas can be sown in the autumn or spring, but in mild districts we prefer autumn sowing.

Sown alone $1\frac{1}{2}$ to 2 bushels per acre broadcast, or say 30 lbs. in drills 2 feet apart.

Sown with cereal crop try $\frac{3}{4}$ bushel Field Peas with $1\frac{1}{2}$ bushels oats or wheat per acre.

We usually stock the Grey, Blue, and Dun varieties of Field Pea, the Grey and the Dun being perhaps the most popular.



Grey Field Peas

SOWING RAPE

Sowing Rape is one of the most profitable stock fodders for fattening. In addition it is a very useful rotation crop and soil renovator on account of its vigorous deep rooting habit, which penetrates subsoils to a considerable depth.

RAPE is the great fodder plant for sheep husbandry in Australia, and with the widespread recognition of the value of combining sheep and wheat, Rape is now becoming a very important crop on the wheat farm, not only for sheep feed, but also a rotation crop and for renovating wheat land. The cost of the seed is so little, and the cultivation so simple, that it cannot fail to be much more largely used.

If paddocks, which are showing signs of exhaustion under wheat, are ploughed and a crop of Rape sown, say early in March, it will give an enormous quantity of sheep feed during the winter and following spring, which will fatten ten or twelve sheep to the acre for some months and if during the following summer, the remains of the crop and sheep droppings are ploughed in, the land will be very much enriched, and if sown with wheat again, a greatly increased yield will result. It is easy to see how profitable it is to utilise the land in this way. Even if owing to unfavourable seasons, the crop of Rape comes to nothing, there is very little lost as the cost of seed is so little. Rape is equally good for pig feeding or even cattle, so long as it is not given in quantity to milking cows, as it is apt to taste the milk.

Sheep put on to Rape fatten very quickly; even old barren mouthed ewes, that would starve on an ordinary pasture, very soon put on flesh, and are fit for the butcher. They should, however, be sent to market as soon as they are "topped off," as if put back on to grass they very soon lose condition again.

Poultry farmers are finding a small patch of Rape a valuable asset, and for this purpose small successional

sowings should be made through the autumn and again in the spring.

Some growers prefer to sow it with Rye Corn, say half-bushel of Rye and two pounds of Rape; others sow it with Mustard, using half-a-pound with four pounds of Rape per acre. The inclusion of Mustard corrects the tendency of Rape to sometimes scour.

We recommend sowing in February, March or April, after the good autumn rains, but as early as possible after the middle of February. It can also be sown with advantage in the early spring, especially in the cooler districts. It is extremely hardy. The land should be deeply ploughed and well worked, but if sown on stubble land, it would be enough on light soils to thoroughly stir the surface with a disc harrow; but ploughing and harrowing would be much better still. Sow three pounds per acre in drills, or four to six pounds broadcast (if drilled, so much the better). Where a machine is not available it may be sown broadcast by mixing with several times its bulk of dry soil, which will materially help to distribute the seed evenly. We do not recommend that Rape should be sown on poor hungry land, as it will not succeed; it requires good soil and deep cultivation, and will well repay the labor expended in preparing the land thoroughly.

As there are several varieties of Rape, some very much better and yielding larger crops than others, also as many of the cheapest samples are tainted with wild mustard or yellow weed, we would strongly advise growers to buy our re-cleaned seed, and note that each bag is sealed and branded.

SUDAN GRASS

THE WONDER CROP FOR THE WEST

A SUMMER FODDER CROP FOR DRY AREAS.

Coming from northern Africa, this grass has inherited a resistance to drought which even exceeds that of many of our native grasses. Mr. E. Breakwell, in his book, "Grasses and Fodder Plants," says—"It may be said to be the most drought-resistant grass yet grown in the western districts Even on a dry seed-bed the seed will germinate and produce healthy seedlings on fifty points of rain." It is a persistently heavy cropper, with a high feeding value, and one of the very best hay crops.

AS a summer crop Sudan Grass has come into striking prominence during the past few years. We believe that this grass is destined to take a very high place among our summer fodder crops. Though not so heavy a yielder in its primary growth as some of the Millets, after the first crop is taken off, Sudan Grass stools quickly and comes again and again in a miraculous manner. The rapidity of growth and weight of crop of the second, third, fourth, and in some cases fifth cuts surpasses anything else among the summer fodders.

Sudan Grass requires a good seed bed and a certain amount of moisture in the soil to germinate quickly and evenly, but, once established, it has proved itself to be of great drought resistance, in fact, it can be accepted that Sudan and Grain Sorghum are the only summer fodder crops that will give consistently good results in the western districts of N.S.W. Its palatability, green, or in the form of hay, is indicated by the greedy manner in which all classes of stock eat Sudan Grass. Its fodder value, tested under chemical analysis, is stated to compare most favourably with wheat or lucerne hay. Sudan Grass stands grazing extremely well, and it is probably the most valuable of the summer-growing fodder crops for this purpose.

A member of the Sorghum family, Sudan Grass is an annual and must be sown down each year. It is most sensitive to frosts, and should not be sown until all danger of such is over, and then as early as possible so as to ensure a good growth and a strong stand by midsummer. Prepare the land as in the cultivation of wheat or sorghum. Sow either in drills or broadcast. If in drills, about eighteen inches to two feet apart, sow 6 lb. to 8 lb. to the acre. This allows of cultivation between the young plants, assisting materially in helping on the young growth by conserving the moisture and checking the weeds. For the man-sowing a large area, probably the most practical method of sowing this crop would be through the ordinary grain drill—perhaps alternate hoes—at 8 lbs. to 12 lbs. per acre—or failing that,

broadcast at the rate of 12 lbs. to 16 lbs. per acre. Its value as a grazing crop is very high, but will be enhanced by growing with Cow Peas or Soy Beans where the climatic conditions permit.

As will be readily understood in such a quick growing and vigorous plant, Sudan Grass responds very noticeably to fertilizers. An application of from 1 cwt. to 2 cwt. of superphosphate with the seed is strongly recommended.

Order early—sow as soon as frosts are over, to get a long growing season.

**FOR PRICES, SEE CURRENT PRICE LIST
POST FREE.**



Harvesting Sudan Grass for Silage.

A Word on "Stock Poisoning"

LITTLE RISK WITH SUDAN WHEN RELIABLE SEED IS USED

There is much misconception about poisoning of stock by Sudan Grass, and we feel that a little space allowed here for a brief statement of the facts will be well used.

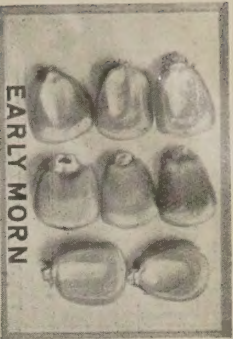
In tests carried out by the Department of Agriculture over a series of years, using a pure strain of seed, no trouble from poisoning has ever occurred. This in itself would show that the risk, if any, is infinitesimal when using a pure strain.

But Sudan Grass is very closely related to the Sorghums and will readily cross with them if grown nearby, forming a hybrid, which is quite distinct from ordinary Sudan Grass, and shows broader leaves, coarser stems, more bunchy seed

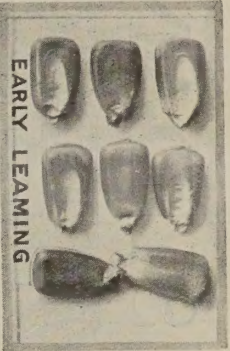
heads, and more vigorous growth. These hybrids are usually easy to see growing in the crop, and, if present, should be rooted out. Sweet Sorghums are definitely known to be poisonous under certain circumstances, and so it is not hard to understand that a hybrid would probably show the same tendency.

Although we cannot and do not guarantee that the Seed we offer is free from hybrid strains, we wish our customers to know, that realising as we do the importance of this matter, we take the greatest care in the selection and examination of our samples, besides making exhaustive enquiries about the origin and place of growth, and furthermore, every sample is passed by the Department of Agriculture as free of injurious Sorghum Hybrids.

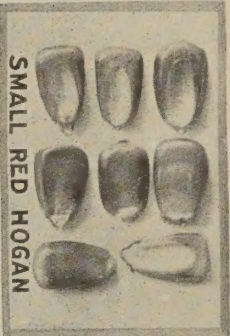
Finally, in considering the advantages and disadvantages of Sudan Grass as a fodder, we would suggest that the slight risk involved is far outweighed by the great economic value of, and the big returns so easily obtained from, this wonderful summer fodder crop.



EARLY MORN



EARLY LEAMING



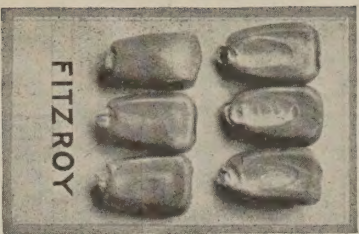
SMALL RED HOGAN



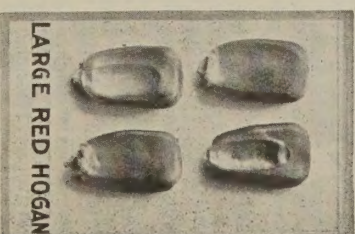
WELLINGROVE



HICKORY KING



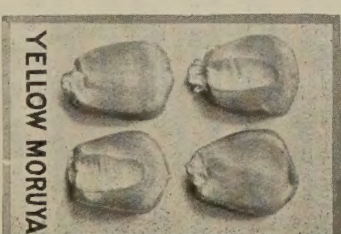
FITZROY



LARGE RED HOGAN



SILVERMINE



YELLOW MORUYA

SEED MAIZE

SELECTED AND SPECIALLY RE-GRADED SAMPLES

Maize is the second most important grain crop in New South Wales, the average annual yield being in the region of 10,000,000 bushels. The average yield per acre is 30 to 40 bushels, and it is estimated that with improved varieties and methods of cultivation it should be raised to 60 to 70 bushels.

MAIZE is a summer crop of the utmost importance in all districts where a reasonable fall of summer rains can be counted on. Even where the summers are usually on the dry side, Maize can be successfully grown if sown in drills and carefully and regularly cultivated. In cool districts where Maize will not ripen, it is still a most valuable green fodder for early autumn use. We strongly recommend sowing in drills, even when only needed for green fodder or ensilage.

The extra weight of crop from a paddock of green Maize sown in drills and cultivated will more than repay the extra cost of labour. Should the season turn dry a fair yield would result from cultivated Maize, whereas the broadcasted crop might be a failure.

By sowing the early maturing varieties it is possible to harvest a crop of grain in districts where the later maturing sort will not ripen. The best time for sowing Maizes varies somewhat in the different districts. For green crop or ensilage, Maize can usually be sown a month or so later than would be necessary for a grain crop.

VARIETIES.

EARLY MORN.—An exceptionally early yellow variety with a good but small grain. It is specially recommended for very cold districts and for very hot, dry districts where early maturity is essential. It is also very useful in the Maize growing districts for land which is wanted for autumn use, as owing to its exceptional earliness it can be harvested in plenty of time to work the land for autumn crops. In practice it is found that owing to its small growth it can be planted much closer than usual. A very good yield per acre is obtained by spacing the rows 30 inches apart and planting the seed every 18 inches in the row.

NINETY DAY.—An early flint. A good early green crop variety. Supplies very doubtful this year.

SILVERMINE.—The earliest white grain, deep and solid, excellent for early green fodder. Very hardy and drought-resistant, also gives good yield of grain.

SMALL RED HOGAN.—A fine early green crop variety.

FUNKS EARLY YELLOW DENT.—One of the earliest of the Dent varieties, especially recommended for the Tablelands and slopes. Very hardy and drought-resistant. A very good variety for a grain crop, has a fine grain.

SMALL LEAMING.—A very popular variety on the North Coast, gives a fine early green crop. We usually have the red grained sort and may have the yellow.

WELLINGROVE (or Early Yellow Dent).—Medium season, heavy cropping Dent variety, giving medium size crop of fairly thick moderately broad grain. Is used to a fair extent on the tablelands and is also suitable for the Western slopes.

As the majority of our customers will require Seed Maize for green crop, we would advise them not to overlook the White Grained varieties, as generally, besides yielding a heavier grain crop than the yellow sorts of the same class, they are all exceptionally good, green crop Maizes, producing a heavy leafy succulent growth.

Sow 8 to 12 lbs. per acre in drills for grain, and one bushel to one-and-a-half bushels broadcast for green feed. The Maize crop generally is very short this year and prices are consequently high and good samples scarce, but in view of the really small quantity of seed required per acre this should not be considered, and farmers in their own interests should not begrudge the small extra cost of graded samples.

All our Seed Maize is specially treated in our seed growing plant, and while we cannot eliminate the whole of the inferior and discoloured grains, we do remove a very large proportion, thereby greatly improving the appearance and germination of the samples, and, as a result, our seed is noted for its quick and even growth.

FITZROY (or Improved Yellow Dent).—A variety which is becoming extremely popular both as a good yielder of grain and for green fodder and silage. Grain is moderately thick, broad and deep, and a bright colour, which makes it very attractive.

HICKORY KING.—A very popular main crop white variety. Very broad grain, is exceedingly good for green fodder, specially for the highlands, as the variety suckers freely.

GIANT WHITE.—Excellent main crop. Grain large, deep and solid. Splendid green fodder.

MANNING WHITE.—Very similar to Giant White, and has gained great popularity in certain parts of the North Coast of New South Wales. Supplies very doubtful this year.

YELLOW MORUYA.—A very large grained, late maturing variety which is very popular on the lower South Coast.

LARGE RED HOGAN.—Late maturing variety, very popular in districts with long season. In favourable seasons it gives a very tall growth, but as the stalk is stout it resists wind well. Grain is fairly thick, broad and deep.

YELLOW HOGAN.—A late variety which has been very successful on the Macleay River, N.S.W. The grain of this variety is exceedingly heavy. Supplies very doubtful this year.

YELLOW HAWKESBURY.—Deep, broad grain, splendid in warm districts; heavy cropper. At time of going to press, supplies of some varieties are not yet assured owing to lateness of season and weather conditions. See current Price List before ordering.

As a catch crop to augment the natural grazing many farmers require a quick-growing fodder to give a "green pick" when the pastures are ripened and dry. The need is for something that will require little labour in cultivation or harvesting. Some of the MILLETS are eminently suited for this purpose. They will grow well on even mediocre land, and several of the varieties stand grazing very satisfactorily, and shoot again and again. As a "follow on" for milking cows and growing lambs after the spring grass has commenced to dry the several varieties of MILLETS specially indicated are excellent. Sow broadcast or through an ordinary grain drill set for suitable depth as mentioned below.

JAPANESE MILLET

For grazing purposes or green fodder gives the earliest growth. This variety is of upright growth, and stoops out fairly well. It grows up to 3ft. 6in. or more high, and "comes again" very quickly after being fed off or cut also makes excellent hay.

BROOM MILLET

The grain is an excellent fowl feed, but the great value of this variety is for broom making. We stock the best Hunter River grown long haul variety. To those interested, we can supply detailed instructions about growing this crop.

WHITE FRENCH

Is smoother and of slightly more succulent foliage, and grows up a little higher, but does not stool quite so well. This Millet also recovers very quickly after feeding off or cutting.

PEARL MILLET

This is a very tall growing variety, suitable for hay making. If sown in rows and intercultivated it will attain a height of 8 to 10 feet. It has slender stalks and slender long bladed leaves, making it very suitable for hay, and should be cut while young and tender. Sow 8 to 10 lbs. per acre in drills, or up to 20 lbs. broadcast.

MILLETS

Quick, Cheaply-Grown Summer Fodder Crops

HUNGARIAN MILLET
Another very valuable summer green crop. Sown in the spring or early summer it will give a wonderfully heavy crop of hay or ensilage. For hay purposes the Hungarian Millet is much superior to other varieties. It is a quick grower; in fact, in suitable situations, if the seed is sown in September, it will mature early enough to obtain a second crop of hay off the same land. Twelve pounds of seed per acre in drills, or 20 pounds broadcast, is a fair sowing. When in bloom it should be cut and treated as other hay.

Mr. H. F. W. W.—Brightview, via Lowwood, Q'land, writes on 8-2-27:—"The Japanese Millet Seed I purchased from you some time ago proved such a success that I shall never be without it. Its height is fully 5ft. 6in., which I should think is a record."

SORGHUMS

IN districts where rainfall is a little too low for maize, sorghums have their particular value. They have wonderful adaptability to different soils and climates, and will produce big yields of splendid fodder where maize would fail, and, in addition, the feed value of the grain is almost equal to that of maize.

The early varieties grow quickly even on poor land and under droughty conditions, and give green feed when most other things are withering. The late sorts grow under similar conditions, and stand well into the winter—even when the flag is frosted the stalks retain their succulence and sweetness—and provide a very palatable and fattening fodder when it is most acceptable.

Many farmers are reluctant to grow Sorghum for fear of poisoning their stock, but Sorghums are too valuable to exclude, and if the following is noted, they can be fed to stock with perfect safety. Firstly it has its best feeding value when the seeds are just hardening, and at this stage of growth there is no danger of poisoning unless frosted or stunted. Most cases of poisoning occur when the plants are half grown and checked by frost or dry weather. The certain method, however, of avoiding trouble is to cut the crop and allow it to wilt for a couple of hours before feeding.

For ensilage, experience shows that Sorghum should be fairly mature before cutting. The stalks may look rather dry, but Sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acrid and inferior to that cut at the right time.

The earliest sowing of Sorghums should be made directly the frosts are over, and the second crop may be planted up to the end of January, November and December being the best months.

In rich, moist land, and where fineness is desired, up to 50 lbs. can be sown broadcast per acre, but in ordinary situations 30 lbs. is ample; it is a good method in such land to sow in drills 3 ft. apart, and keep the land between the rows cultivated. In drills, about 10 lbs. per acre is sufficient. Prices vary with the market.

VARIETIES.

No. 34.—This variety is not proving as useful as at first thought. We will not be able to supply.

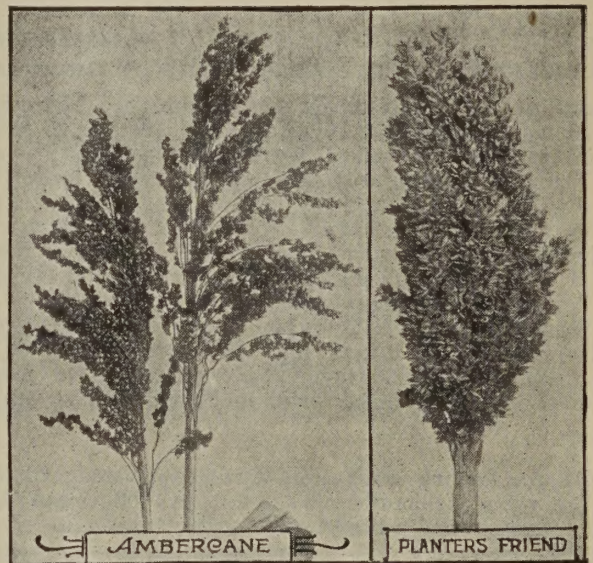
EARLY AMBER CANE.—The earliest and the best variety to withstand droughty conditions. Largely used on irrigation areas, as less water is required to bring it to maturity.

SUMAC.—This is a fairly sweet variety and a very vigorous grower. It is proving a good sort but supplies this season will be very limited.

PLANTER'S FRIEND.—For late crop, as it stands cold weather and retains its sweetness and feeding qualities even after the seed is matured.

SACCALINE.—Exceptionally rich in sugar, it is very palatable and fattening to all classes of stock, while its succulence and freedom from "pithiness" after standing through severe winter is most marked.

One of the very valuable habits of Saccaline is its persistent ratooning or throwing up of new growths from the roots when the matured stalks have been cut. It has in several instances stood through the winter, and then when all cut thrown up a fresh crop of fine stalks the following spring, and grown well through the second summer.



COLLIER.—A very fine variety, juicy and sweet. One which stands well into the winter; is a clean grower, and has shown a decided resistance to red stain or rust. Its green fodder yield is heavy and it should be well worth trying. Supplies will be rather small this year.

HONEY.—This is the newest of all the varieties mentioned, and is reported to be a tremendously heavy cropper, but as yet is very little known. Supplies will be very limited this year.

No. 61.—Very similar to, and will doubtless be a rival to Saccaline. It is a sweet, succulent, heavy yielder, and is disease-resistant. Matures slightly earlier than Saccaline, but is more frost-resistant and stands longer into the winter months.

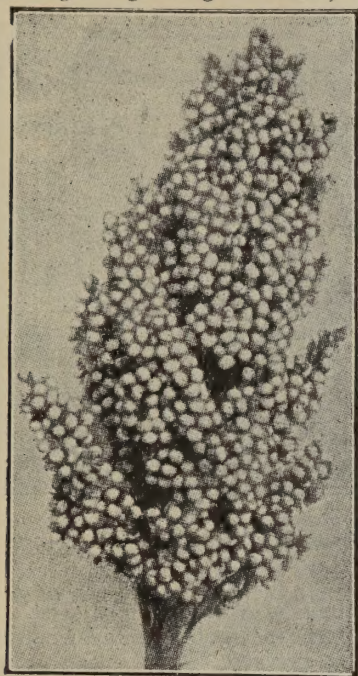
WHITE AFRICAN.—This has perhaps showed out best, proving itself to be an exceedingly heavy yielder, and to be sweet, juicy, and disease-resistant. This variety should be planted fairly thick, otherwise it tends to become coarse in the stalk.

SORGHUM, SACCHARATUM or BLACK SORGHUM.—Good strains of this variety are not now available, as it has gone out of favour to a large extent, and has been replaced by newer sorts. We do not now carry stocks.

FOR PRICES SEE CURRENT PRICE LIST—POST FREE.

GRAIN SORGHUM

In districts where the average rainfall is too limited for the regular growing of Maize, Grain Sorghum is worthy



A Head of Grain Sorghum showing Enormous Yield of Grain

of inclusion in all crop rotations. It has these characteristics:—(1) It will thrive on a lower rainfall than Maize. (2) The grain has a feeding value nearly as great as Maize. (3) The weight of grain produced is good, under fair conditions up to 40 or even 50 bushels per acre may be obtained. (4) It will succeed in soils too poor for Maize. (5) It can be used for fodder or for ensilage when the seed is in the "dough" stage. (6) Even when the seed has been harvested the foliage and upper stems are of value for the stock as roughage. (7) Unlike other Sorghums it is non-saccharine.

VARIETIES

KAOLIANG.—This is the quickest growing of the Grain Sorghums, and also the most drought resistant. It has been found that once the plant has developed it will not fail to set seed even under the most adverse conditions, but the average yield of seed is never so high as with the other varieties. It has thin, pithy stems and the foliage is sparse.

FETERITA.—One of the most promising Grain Sorghums for the interior, and is excellent for tiding over dry spells. Both the stems and heads have the capacity to hold on remarkably well until favourable conditions arise for the grain to form and mature, which it does very quickly.

MILO.—This is a very quick grower, but is generally the last of these Sorghums actually to set its seed. Where there is enough moisture to form seed, its yields are high. It will produce a considerable quantity of green fodder, up to four tons per acre without irrigation. The grain of this variety seems to have superior nutritive qualities, and on the whole it is one of the most attractive sorts for our semi-arid districts.

KAFIR.—A much slower growing variety than the others, and is noticeable because of its much more leafy and succulent growth. The plant itself is fairly drought resistant and will retain its succulence through long dry spells. Under good conditions this has given the highest yields of Seed (up to 120 bushels per acre when irrigated), but under adverse dry conditions it will hardly set seed at all, and so is only suitable for localities with a fairly favourable rainfall.

ROOT CROPS

THESE are worthy of greater attention from Australian farmers. Here we have valuable food in a concentrated and easily handled form. The weight of the fodder per acre to be realised from root crops is enormous.

The quality of the fodder is very high and where any hand feeding is practised it is not a difficult matter to feed the roots. In Australian climates Mangolds, Sugar Beets and Carrots will stand fairly well in the ground right through the winter, and they can be pulled and fed as required.

MANGOLDS & SUGAR BEET

Wonderful milk producers, and yield immense crops. Sow about September-October; in warm climates an autumn sowing will give a fine crop. Plant in well worked clean land, in drills 30 inches apart, to allow horse cultivator to work and when up hoe to remove any growth of weeds, and if necessary thin out to allow the roots to develop. Five pounds per acre of Mangolds and about eight pounds per acre of Sugar Beet are fair sowings.

YATES' MAMMOTH LONG RED.—A very select stock. The roots are of excellent quality, clean, smooth and free from fangs; flesh close grained and full of saccharine. The heaviest cropping Mangold grown.

SWEDE TURNIPS

Swedes can be grown cheaply and with comparative ease on much of the upland country of N.S.W., not only for stock, but for the vegetable market. For sheep they make an excellent fodder, especially as they become available during the winter and early spring when most needed. Sowing should be made in February, March and April at the rate of two to three pounds per acre in drills about two feet six inches apart. Up to one hundredweight of superphosphate will cause considerable increase in weight and vigor of crop.

YATES' CHAMPION PURPLE TOP.—A standard globe-shaped variety, which gives wonderful returns and is the standard sort for growing for market. Our strains are unexcelled, the crop comes in evenly and the Swedes are well shaped, large, and keep well.

YATES' CHAMPION YELLOW GLOBE.—A very select stock, small top; flesh close in texture, excellent feeding quality.

GOLDEN TANKARD.—An excellent keeper. The roots medium size, with deep yellow flesh, and contain high percentage of saccharine.

LONG YELLOW.—An excellent variety, very heavy cropper.

SUGAR BEET WANZLEBEN.—Half long white roots, sweet and crisp.

GIANT HALF-SUGAR MANGOLD.—We keep the two varieties, White and Rose. They are sweeter than the ordinary Mangold and larger than Sugar Beet, combining the quality of the Beet with the weight of crop of the Mangold. Tested against Sugar Beet it yielded twice the crop. Intermediate in size, averaging about one foot in length.

YATES' MONARCH.—A large tankard-shaped variety, with purple top. Heavy yielder and a good keeper. Excellent for stock or market growing.

FIELD CARROT

Valuable for all classes of stock, particularly horses. Sow any time in spring or early summer, when the weather is favourable, at the rate of four pounds per acre in drills 30 inches apart for horse work or closer if for hand work.

WHITE BELGIAN.—Grows well out of the ground, so it can easily be pulled by hand.

ORANGE GIANT.—A rich orange red variety, very handsome and smooth, producing large crops.

SUNDRY FODDER CROPS

BURNET (Sheeps).—This fodder plant has proved itself suitable for our dry inland country where it would be futile to sow English grasses, and where the soil is not suitable for growing Lucerne. It is one of our best drought-resisting plants, and remains green when most other fodder is burnt up, springing again with light showers that would not have the slightest effect on the grass; it is absolutely permanent, and when once established does not die out. It is a herb, not a grass, grows from 15 to 18 inches high, and has a long tap root, which enables it to stand dry weather and grow when other plants, with shallower roots, are drought-stricken. It grows both in summer and winter, giving the greatest rush of feed in the spring. All animals are fond of it, and thrive well on it, but it is particularly suitable for sheep. Sow 10 to 12 lbs. per acre. Burnet may, with advantage, be included in grass seed Mixtures for poor soils; being a deep rooter it does not rob the surface-rooting grasses and succeeds where better grasses fail.

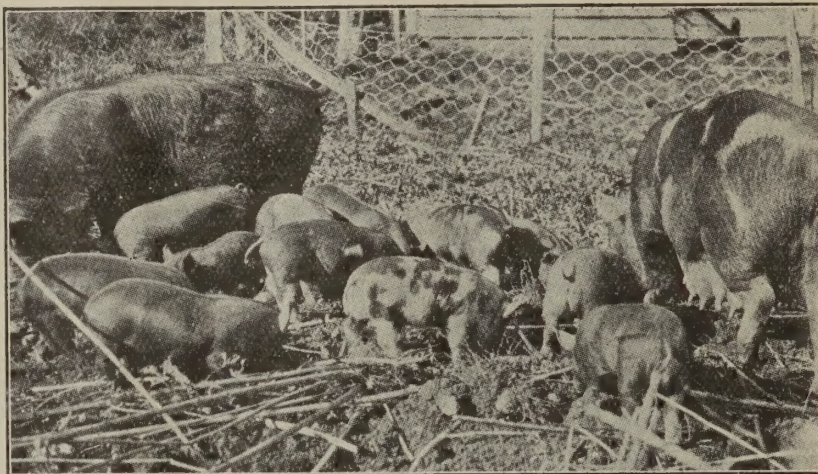
SUNFLOWER.—Valuable, when growing, as shelter to young crops, and the seed forms a most excellent food for poultry and in fact all stock. Eight to twelve pounds will sow an acre in rows three feet apart, and it requires the same soil and climatic conditions as Maize. In U.S.A. it is now being used quite a lot for ensilage; it has been found of considerable value for this purpose. (Black Seeded or Striped.

ARTICHOKES (Jerusalem).—These are similar to Potatoes, and require the same cultivation, but we would plant in rows two to three feet apart. A most desirable and delicate vegetable. They yield very heavy crops and are excellent for pig feeding, especially where pigs can be turned in to root them out; their fattening value is 25 per cent. greater than potatoes. Four to six cwt. will plant an acre.

BUCKWHEAT (Japanese).—A splendid quick yielding fodder crop and valuable for fowls. Japanese are the largest and most vigorous varieties. Sow 20 lbs. per acre.



Sunflower in the field. Yields of 20 tons to the acre are obtained



Artichokes are Unexcelled for Pig Feed

CANARY SEED.—So largely grown for bird seed. It may also be used for hay purposes, requires similar culture to wheat; sow 17 to 20 lbs. per acre. Queensland grown seed, and extra large seed, Morocco grown.

LINSEED (N.Z. Grown).—This is grown either for seed, for oil purposes, or for the fibre for linen making, but requires special conditions, which intending planters should inquire into if putting in large areas.

MELONS, CATTLE.—A mixture of suitable sorts. Generally the Cattle Pumpkins are to be preferred, but the Melons form a juicy-stand-by-fodder:

MUSTARD.—For a quick green fodder for fattening lambs, Mustard can be recommended. Sow eight pounds per acre. It is also frequently mixed with Rape. It is ready a few weeks after sowing.

PUMPKIN, CATTLE.—The Pumpkin crop is invaluable for winter feed for milking cows and young calves; 1lb. will sow an acre.

Mammoth Cattle.—Very large, heavy cropper.

Gramma.—A long shaped variety, big yielder.

Mixed Cattle.—Including types of Ironbark and similar varieties, excellent for productiveness and keeping quality.

SILVER BEET.—This plant is grown for the green tops, not for the roots, as with other Beets. It is found in New Zealand that the foliage is reproduced so quickly after being eaten down that it makes an excellent crop for sheep fattening. Plant in rows, 30 inches apart, so that the land can be hoed, and thin from 9 to 12 inches apart in the rows. Sow three to four pounds per acre.

SALTBUSH.—It has been aptly described as the plant that makes fodder when feed is most needed. It is not difficult to raise from seed or cuttings or roots. Seed should be sown in the autumn or early winter, either direct or in a nursery bed and later transplanted.

On account of its thick succulent foliage it has proved very useful as a fire-break. We have two varieties :—**ATRIPLEX NUMMULARIA** (Old Man Saltbush), grows 6 to 10 feet high with numerous branches, and **ATRIPLEX SEMIBACCATA** (Creeping Saltbush), specially suitable for sheep.

We think that greater consideration than hitherto might well be given this plant by graziers in our western slopes and plain country. One pound should seed about an acre.

YATES' Re-Cleaned SEED GRAIN

IN SEALED AND BRANDED BAGS

THE importance of sowing only Re-cleaned and Re-graded Seed Oats and Seed Wheat for green fodder as well as for grain is now beyond the experimental stage. The high cost of labour and high land values make it more than ever necessary to get the most out of the cultivated land. It is better to have ten acres of a really good crop than twice the area giving only an indifferent yield.

SEED OATS

Prime Heavily Re-Cleaned Samples

We have proved on our own farms that the most profitable method of feeding dairy cows for eight months of the year is to plant Algerian Oats for grazing. To get the best results the cultivation land should be divided into three or four small paddocks; the crop which has been eaten down soon recovers after a few weeks' spell, but continual grazing is wasteful, not good for the crop or the cows. We recommend that a dressing of 1 cwt. of Bonedust or Superphosphate be used, also five or six pounds of Clover seed per acre be planted with the Oats. This will give a more balanced ration and so increase the milk flow; it will also maintain the fertility of the land, and give a good stubble-feeding during the following autumn.

We have found Algerian Oats to be by far the best variety for grazing; being of finer growth it stands a good deal of trampling and its spreading habit and strong root growth prevent it from being easily pulled out. If shut up in the early spring a crop of hay may be harvested in addition.

For cutting purposes some of the vigorous-growing early Oats like Mulga, Sunrise, etc., may prove superior in the milder climates; these are tall growing and have fleshy stems, and come very quickly; in fact, they grow almost as quickly as Barley and are superior to it for feeding value. They will however not stand extremes of frost like the Algerians, and, on account of their coarse fleshy growth, do not stand trampling and hard grazing so well.

For late sowing in the cold districts the heavy varieties are preferred.

VARIETIES USUALLY AVAILABLE.

Algerian	Mulga	Sunrise
Myall	Yarran	Warrigal
Guyra	Ruakura	Heavy White
		Heavy Black

RYE CORN

Rye is a very hardy plant, and is largely used for winter feed, especially where the climate is severe; it will stand the heaviest frost. It is particularly good when fed off; many experienced farmers preferring to use it this way, as they find their stock do best while the Rye is young.

It will stand grazing all the winter and rapidly grows again after being eaten down. It is also used for mixing with Tares, the Rye serving to hold the Tares off the ground Rye comes into use very early. It is also sown to advantage mixed with Rape. The straw is very valuable for thatching, and some farmers sow the headlands of their hay paddocks with Rye Corn for thatching the stacks. Sow about two bushels to the acre. We Stock the Mammoth variety.

SEED WHEATS

Prime, Heavily Re-cleaned Samples. Grown from Select Stocks.

Wheat is largely used for green fodder and for hay as well as being the world's most important grain crop. It stands dry conditions better than almost any other grain and is therefore of great value for fodder and for hay, as well as for grain in districts of low rainfall. It will often give good crops in seasons which cause oats to be a failure.

Following are the varieties which are usually available, but as supplies are nearly always short of demand, early enquiries are invited. The advantages of sowing only whole plump grain free of pinched broken seeds, weed seeds and foreign matter, is now proved to be worth many, many times the slight extra cost per acre for Re-cleaned Seed; in unfavourable seasons it may mean the difference between a crop and a failure.

Thew and Florence are of a special value for green fodder under coastal conditions.

Sow up to 2 bushels per acre together with a dressing of 56 lbs. to 112 lbs. superphosphate per acre, according to location and quality of the land.

VARIETIES USUALLY AVAILABLE.

Florence	Thew	Canberra
Soft Federation	Hard Federation	Yandilla King
Marshall's No. 3	Firbank	Waratah

BARLEY

Barley is the earliest of the grain crops to mature and in this earliness lies also its great value as a green fodder crop. It is one of the sweetest fodders grown and is relished by all classes of stock.

For the farmer's purposes, the Barleys can be classed into three, namely:—Cape Barley, Skinless Barley, and English or Malting Barleys. Cape Barley is the one most generally used for green fodder; it grows very quickly, but as it is not so hardy as other grain, it is most suitable for early use in cold climates. Skinless is also a good variety, coming very early to maturity, and affording two cuttings; it should be grazed after each cutting; the close feeding seems to cause it to come again with renewed vigor. English or Malting Barley is usually grown for grain for malting purposes, but there are two varieties which absolutely stand out as green fodder sorts, viz., Trabut and Pryor.

Trabut is a heavy yielder, and abundant stouter maturing two to three weeks earlier than Cape. Pryor is similar to Trabut, and is very leafy with fine succulent stems.

These Barleys all make excellent silage. The addition of Field Peas when sowing makes a combined cereal-legume crop of high nutritive value.

Barley should be sown broadcast at the rate of two bushels per acre, or if drilled one bushel should suffice.

MARKET GARDEN CROPS

FOR SPRING, SUMMER AND AUTUMN PLANTING

IN districts within reasonable distance of the centres of population and with a fair average rainfall, it is often well worth while for the farmer to reserve some of his best land for vegetable production for market.

The essentials for successful market gardening are good soil, good rainfall or facilities for irrigation, rotation of crops, intelligent use of fertilisers and regular cultivation.

Few crops average out as well as Cauliflower, Cabbage, Pea, Bean, Swede, etc., if grown under suitable conditions. It will be found that the man who, having decided what crops are best suited for his conditions, consistently grows those crops on a well thought out rotation, does better than the grower who is constantly changing over and thereby often meeting a "glut" of the particular line he is growing.

For best varieties, time to plant and for cultural directions, farmers should be guided by local experience and the information given in Yates' Annual and Yates' Garden Guide (1s., post free).

The higher returns regularly obtained by experienced men are evidence that skill and care are very necessary in this branch of farming. Where conditions of soil and season are not favourable, and where varieties have been sown unsuitable to the time of planting or the district, the crop is likely to vary considerably in type, season of maturing and uniformity. Our advice is to grow those varieties your neighbours have proved to do well, and then make your own experiments in a small way as to the suitability of later introductions and improved sorts.

Attention is directed to the Conditions of Sale and Non-Warranty set out on inside of Front Cover and on all invoices.

CABBAGES

Cabbages do best on rich deeply worked soil, and are largely grown on the cooler upland country near Sydney. The main planting should be made in December, January and February in most districts. Raise the plants in seed beds, transplanting out in rows when large enough to handle, 24 to 30 inches apart each way. About $\frac{1}{2}$ -lb. of seed is required to raise plants for one acre. The two leading sorts are:—

YATES' EARLY DRUMHEAD.—One of the finest market cabbages grown. There is no better variety for standing the hot summers. The heads are large and solid and in good seasons it matures in four months. We offer Yates' Specially Selected Strain, grown on our own Seed Farm. This strain has given every satisfaction. We also stock European grown seed.

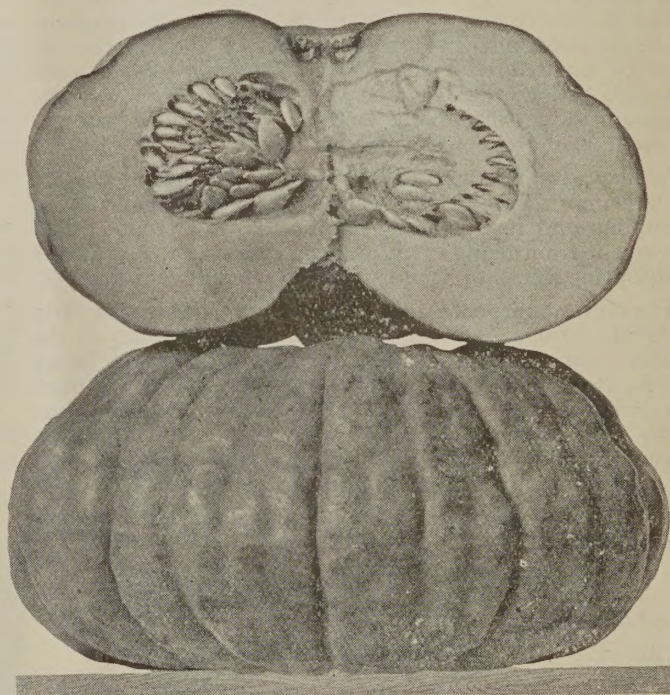
SUCCESSION.—This and Yates' Early Drumhead are the two main cabbages used by market growers throughout Australia. It is a week or two earlier than Drumhead, otherwise very similar. A good carrier and the best and longest standing cabbage for autumn planting for spring use. Unfortunately supplies of our renowned Derwent Succession are now exhausted, but we can supply European or Peter Henderson's American grown seed, both of which have proved excellent in our trials. Other sorts likely to be of interest and worth trying in certain districts are:—Yates' Vanguard, Yates' Utility, Copenhagen Market, which are all of the early solid, round head type; Winningstadt, a pointed cabbage but a sure header and good carrier, and in great favour in California; and Allhead and Surehead

PUMPKINS

The best table varieties are Yates' Queensland Blue, Yates' Triamble, a distinctive three-cornered variety with very thick flesh; Yates' Large Button or Ironbark, Yates' Sydney Crown. Sow at the rate of 2 lbs. per acre during late Spring in hills about eight feet apart each way.

HUBBARD SQUASHES

It is our opinion that the Hubbard varieties of Squash would be even more extensively grown if those who do not know them would but try them. They are classified as winter varieties, this means that they are later than the summer varieties in maturing, and keep excellently when properly stored. In this respect they are like the better class pumpkins. The fruits mature in about four months from planting the seed, and the yields are very satisfactory. The flavour of these Squashes is all that can be desired, the flesh being dry, mealy, sweet, and altogether delectable. We have the Blue, Green, Golden and Warty varieties. For detailed descriptions, see YATES' ANNUAL.



Yates' Queensland Blue Pumpkin.
One of the finest table sorts.

BEANS

For the warmer districts round Sydney and on the North Coast, beans are the prevailing market crop, and in those districts where early crops are possible very handsome returns are being obtained. The same remarks as to the desirability of growing this crop apply as they do to peas. As to varieties, Canadian Wonder is the standard sort, but there are inferior strains offering. Yates' Selected Canadian Wonder are the prime samples offering of a heavy cropping type. No better bean for market growing is offered. Usually two bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop. Prices on application.

MARKET GARDEN CROPS—Continued

CAULIFLOWERS

These are somewhat uncertain, but where success is attained the profits are usually exceedingly satisfactory. The main thing is to grow them in good rich soil and rush them on quickly.

In dry weather they should be well watered, especially just after planting out.

Plant in December, January or February—this will generally give the best results.

Sow $\frac{1}{2}$ -lb. of seed for every acre of plants required. Varieties suitable include our two Specialities:—Yates' Phenomenal Early and Yates' Phenomenal Maincrop, which are rapidly capturing the Sydney Market; Early Italian Giant, Veitch's Autumn Giant, Late Italian Giant, and Late Metropole, which are self-protecting varieties, coming in from five to eight months in the order listed; and Early Short Stemmed Eclipse and Late Eclipse, which are excellent market sorts of the open or Dutch type.

CUCUMBERS

Cucumbers are a paying proposition to many small farmers in moist, mild districts. The seed must be sown in the Spring, when all danger of frost is over, in hills about four feet apart each way. The soil must be in good condition and be liberally manured, and to produce fruit of true character the plants must not be checked in any way. About $\frac{1}{2}$ -lb. of seed is sufficient per acre.

For the Sydney market Improved White Spine is undoubtedly the best for the main supply, it is of medium length, thick and solid. Apple Shaped is another good Market sort rapidly gaining favour with buyers. Yates' Crystal White is an interesting new sort which promises to become a favourite.

ONIONS

Onions do best in rich adhesive loamy soil, which should be deeply worked. This is a crop which usually gives splendid returns, as shown by the high prices fetched by good onion land. We have dealt more fully with the growing of Onions in our Onion Booklet, which we will gladly post to anyone interested, gratis and post free.

Varieties likely to be of most interest at this season are:—Yates' Hunter River Early (Brown Spanish), Extra Early Golden Globe, and Yates' Light Skinned Spanish.

For main crop in a suitable onion district there is only one variety, and the world over there is no finer market Onion offered. We refer of course to Yates' Select Long Keeping Derwent Strain of Brown Spanish. It is in great favour throughout Australia and the United States. About 3 lbs. of seed are required per acre.

PEAS

In the Highland districts around Sydney and on the Tablelands, many farmers now devote a portion of their holding to the growing of green peas for the Sydney market, and in recent years this has proved very profitable. The growing of peas or beans for the vegetable market is excellent practice from a rotation point of view; it rests the land from ordinary farm crops, gives it the advantage of a leguminous crop, and leaves the land in an improved condition for succeeding crops. A fair quality of land and a reasonable use of suitable manure are advisable for the best results. The most favoured varieties for market gardeners are:—Witham Wonder, William Hurst, Richard Seddon, English Wonder, Greenfeast, and Yorkshire Hero, and we shall be pleased to quote on application. Usually 2 bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop.



Portion of a Cauliflower patch for market grown from Yates' Seeds at Barcaldine, Western Queensland

MELONS

There is always a demand for well grown stuff, and this applies particularly to the Rock Melon, which is such a favourite fruit. Both Water Melons and Rock Melons can only be sown in the Spring when the ground is warm. Light rich well manured soil and plenty of warmth and moisture will produce splendid crops. The Rock Melons particularly in favour for market growing are Rocky Ford, Early Hackensack, Greeley Wonder, and Paul Rose, while in Water Melons growers usually ask for Kleckley's Sweets, Cuban Queen, Tom Watson, Yates' Market Wonder, and Halbert Honey.

TOMATOES

Tomatoes are now grown very extensively and are yielding very good returns to those marketing clean, sound, well graded fruit.

For instructions and general information regarding Tomato culture for market, we would refer readers to our Tomato booklet (post free on application). We are offering varieties claimed to have more or less resistance to the wilt disease, and we believe that it is through this quality of "resistance" when more fully developed that the wilt disease will be overcome. In the meantime we suggest these varieties be tried out under growers' local conditions, and that the market crops, especially the early planted areas, be sprayed every fortnight with Lime Sulphur or Bordeaux Mixture.

The useful varieties for market are:—Yates' Harbinger, Earliana, Chalk's Early Jewel, Bonny Best, Burwood Prize, and Stone.

The different varieties only show their true character under favourable conditions; two ounces should raise sufficient plants for one acre. See Yates' Annual for descriptions.

TURNIPS

The garden turnips, such as White Stone and Nepaul are usually grown by the intensive market grower near the city, but the Swede Turnip is essentially a farmer's crop, and the Sydney market supplies come largely from the highlands of N.S.W. Sowings at the rate of 2 to 3 lbs. per acre should be made in February, March and April, in drills about 2 ft. 6 in. apart. The best variety is Yates' Champion Purple Top, a standard globe shaped sort in regular demand in the markets. Yates' Monarch is another good sort.

TREES FOR FODDER, SHADE, SHELTER AND ORNAMENTATION

ONE thing that strikes the observer about many of our country homesteads is the absence of shelter or shade trees. How much cooler and more attractive a country house looks when it is nestling and half hidden in a grove of trees. But trees have their commercial value also, and quite a number of species are edible for stock, and their value in the dreaded drought time is incalculable.

The value of shade and shelter to stock is often underestimated by pastoralists. A little rough hill covered with stunted gum trees is worth much more for the shelter it provides than the small amount of grass it would grow if it were rung.

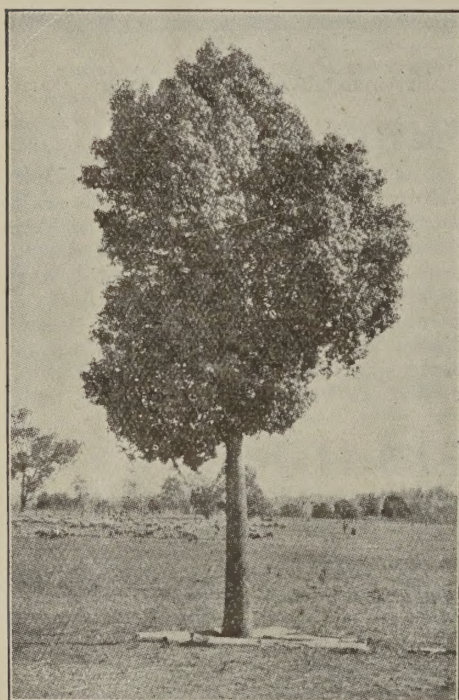
THE planting of trees is a very small expense and the benefit they bring in after years will repay this many times over. The ground should be worked up and prepared for them in the early autumn months, as in all but the coldest places winter planting is usually best. When planting be careful to put the subsoil in first and surface soil on top, and trample it well down, so that the young roots may be able to grip the soil. While the trees are young, light guards or netting are necessary to protect them from stock or rabbits.

E signifies Evergreen. D signifies Deciduous.

EDIBLE TREES AND SHRUBS

KURRAJONG (*Sterculia diversifolia*) E.—

A tree that combines palatability and a relatively high nutritive value as a fodder, with ability to grow in almost any part of our pastoral country, and great use for shelter and a fine appearance, surely deserves to be widely planted. What finer investment for the pastoralist than plantations of this beautiful tree. Although slow growing at first, it will in a few years form a very shapely tree, and the rate of growth will probably be accelerated with a little judicious cultivation round the tree. The chem-



The Kurrajong, one of Australia's most useful and ornamental trees.

ical analysis of the foliage is very good, and after any long dry spell the lopped trees one sees everywhere is the best testimony to its value. The more care that is exercised when lopping, to take only the finer branches, the quicker the tree will recover.

Seed should be sown from autumn on to early spring, and usually germinates readily. The seedlings must, of course, be given protection if planted in the paddocks, but growth will probably be quicker if they can be put out in blocks and fenced off and the ground worked now and again. Plants are always available and may be put in any time.

CAROB BEAN TREE (*Ceratonia siliqua*), E.—This is a hardy evergreen well suited to hot dry climates. The seed pods are edible for stock. Plants may be put in any time.

HONEY LOCUST TREE (*Gleditsia triacanthos*), E.—A leguminous tree having pods of a very rich food value. This tree has given very good results at Hawkesbury Agricultural College as shelter, shade and food for pigs, and should be adapted to a wide area of New South Wales. Seed may be sown in the autumn and plants can be put in any time if looked after.

TAGOSTASTE (so-called "Tree Lucerne")—A quick growing shrub or dwarf tree. It makes excellent shelter round the fences of paddocks, and in periods of drought and scarcity would make an excellent stand-by for feeding. We do not value it very highly as a fodder, but used as above it is well worth growing. It is also unequalled as a breakwind round an orchard or garden. Having a deep tap root it does not rob the surrounding land as other trees do; in fact, crops can be successfully grown close up to them. In its flowering season it gives a great harvest to the bees. The plants are easily raised from seed, which should be soaked in warm water before planting. It is best to sow the seed where they are to grow, afterwards thinning them to proper distances apart.

TREE LUCERNE (*Medicago Aborea*).—The true Tree Lucerne, growing six feet or so. Pretty ornamental plant, and useful for fodder in drought times.

It is also claimed to be of value as a honey plant.

TREES FOR ORNAMENTATION

LOPHOSTEMON or **CINNAMON BOX** (*Tristania conferta*), E.—A valuable shade and street tree of very rapid growth, suited to warm coastal districts. Strong plants are always available.

CAMPHOR LAUREL (*Camphora officinalis*), E.—One of our very best evergreens, doing well in all but very dry places. For a tall hedge or dust break it is unsurpassed. Plants always available.

PINUS INSIGNIS (E.).—This needs no description, being almost universally known. Suitable for bleak situations on the coast and for the tablelands. Plants may be put in any time, while if the seed is preferred it should be sown in the autumn.

PLANE TREE (*Platanus orientalis*), D.—A beautiful tree for avenues or specimen planting. Suited to all except dry inland climates, plants should be put in during the cooler months while the leaves are off.

PEPPER TREE (*Schinus Molle*), E.—No tree is more suited for the hot, dry inland districts than this. It provides an abundance of shade and grows rapidly. Plants may be put in any time, while the seed is best sown in the autumn.

MAHOGANY GUM (*Eucalyptus botryoides*), E.—A very fine and beautiful shade tree which does well in most climates. Seed is available and should be sown in autumn, while plants can be put in any time.

SUGAR GUM (*Eucalyptus corynocalyx*), E.—Largely planted for fodder and shelter purposes. We always have seed and plants, the latter can be put in any time of the year if they are given a little attention.

SILKY OAK (*Grevillea robusta*), E.—A valuable ornamental and timber tree, it makes one of the very finest cabinet woods. We have no seed, but can supply strong plants which can be put in any time of the year.

FOR PRICES, SEE "YATES' ANNUAL," OR LET US QUOTE YOU

PRICE LIST

SPRAYING PREPARATIONS

As many of these preparations are poisonous, they should be kept away from children and domestic animals.

"RELIABLE" ARSENATE OF LEAD.—For all chewing or leaf eating insects, such as pumpkin beetle, codlin moth, grubs, caterpillars, etc.

IN PASTE FORM (1 lb. making up to 30 gals. spray), in tins, 1 lb., 2s. 6d.; 2 lb., 4s. 6d.

IN POWDER FORM (1 lb. making up to 50 gals. spray), $\frac{1}{4}$ lb., 1s.; 1 lb., 3s. 6d.

YATES' "HAROLA" LIME SULPHUR.—For all fungus diseases, such as black spot, mildew, rust, etc. 1 gal. makes 10-40 gal. spray, according to purpose. In sealed tins, 1 pt., 1s. 3d.; 1 qt., 1s. 9d.; $\frac{1}{2}$ gal., 2s.; 1 gal., 3s. 6d.; 2 gals., 6s. 6d.; 4 gals., 8s.; 5 gal. drums, 10s.; 42 gal. casks, 1s. 9d. per gal. (casks, 7s. 6d. extra, returnable).

"RELIABLE" BORDEAUX MIXTURE.—For Irish Blight on potatoes and similar tomato diseases. (1 lb. makes up to 10 gal. according to purpose required).
POWDER.—Per $\frac{1}{4}$ lb., 9d.; per 1 lb., 2s.; over 10 lbs., per lb., 1s. 9d.

BLIGHTY MIXTURE.—For spraying potatoes, grape vines, and tomatoes (1 lb. makes up to 6 gals.).
POWDER.—1 lb., 1s. 9d.; 7 lbs., 10s. 6d.; 20 lbs., 27s. 6d. Special prices for large quantities.

HARBAS.—For scale, woolly aphis, etc., on fruit trees (1 lb. makes 20 to 30 gals. spray). Per 1 pint, 1s. 6d.; 1 quart, 2s. 3d.; $\frac{1}{2}$ gal., 3s. 6d.; 1 gal., 6s.; 2 gals., 11s.; 4 gals., 17s. per tin; 42 gal. casks, 4s. per gal. (casks, 7s. 6d. extra, returnable).

"265" SNAIL EXTERMINATOR.— $1\frac{1}{4}$ lb. tin, 1s. 6d.; $2\frac{1}{2}$ lb. tin, 2s. 6d.; 5 lb. tin, 4s. 6d.

BENZOLE EMULSION (in paste form)—For thrip, aphis, and Rutherglen Fly, 1 lb. makes 5 gals. spray. Per 1 lb. tins, 1s. 9d.

NICOTEEN EFFECTO.—For aphis, green fly, etc. Per bottle, to make 6 gals., 1s. 3d.; to make 12 gals., 2s. 3d.; to make 24 gals., 3s. 6d.; to make 48 gals., 6s.; to make 96 gals., 11s.

BLACK LEAF 40.—For aphis, green fly, etc. Per bottle, to make 8 gals., 1s. 6d.; to make 16 gals., 2s. 6d.; to make 32 gals., 4s. 3d.; to make 64 gals., 7s. 6d.; to make 128 gals., 12s. 6d.

"XL" ALL NICOTINE LIQUID INSECTICIDE.—Very effective and entirely free of any objectionable odour. 1 pint, 5s.; 1 quart, 9s.; 1 gall., 27s. 6d.

N.B.—No prices in this book include freight or postage, which is extra in all cases.

Follow the instructions when mixing sprays, as the right strength in many cases varies with the season of the year, and with the crop to be sprayed. Mix thoroughly when preparing for use, and keep fluid agitated to preserve uniform strength. See "Yates' Garden Guide."

SPRAY PUMPS, ETC.

Select a good Pump, and after each use pass clean water through it to keep the valves and working parts in good order.

THE CRESCENT SPRAY PUMP.—For use with bucket or kerosene tin (Success pattern). For private gardens or very small orchards, this is a very good pump. It has a foot adjustment, so that it can be used with an ordinary bucket, which, by the way, should be of wood if solutions of copper are used. It is all brass, with ball valves, and is well made. It is fitted with three feet half-inch delivery hose, a 14-inch brass lance, and a patent Bordeaux nozzle, which will deliver the water either in a solid stream or a coarse or fine spray. Price, 27s. 6d.; with 5 ft. hose without lance, 28s. 6d. Postage extra, N.S.W., 2s. 3d.; other States, 4s. 2d.

For prices of extensions, etc., see following list.

THE "REGA" SPRAYER, Model A.—Suitable for the garden, small orchard, poultry farm, garages, lime and whitewashing, etc., etc. Price, 28s. 6d. Postage:—N.S.W., 2s.; Interstate, 3s. 8d.

THE "REGA" SPRAYER, Model B.—This model is a little smaller than the Model A, and manufactured to meet the need for a cheaper pump. This pump has the same effective power and is equipped with the Patent "All Ways" Spray Nozzle.—Price, 25s. Postage:—N.S.W., 1s. 9d.; Interstate, 3s. 2d.

THE MYSTO KNAPSACK SPRAYER, No. 1.—(Eclair pattern). These are splendid pumps for general use, well designed and strongly made. They are easily carried on the shoulders. These are used very largely in Great Britain for spraying potatoes for Irish Blight, as well as for fruit, trees, etc. We can thoroughly recommend them, especially for spraying Bordeaux Mixture. The tank is made of copper, and there is a good agitator. Pump is fitted with a double Vermorel nozzle. Price, £5, freight extra.

THE MYSTO KNAPSACK SPRAYER, No. 3.—The same as No. 1, but well coated with tin internally, to prevent corrosion when using Lime Sulphur. Price, £5 10s., freight extra.

PUMP SUNDRIES.—Brass Lance Extension and Tap, 2ft., 5s. 6d.

Bent Brass Extensions (6in. elbows) 2s.

"Blind" Caps for Vermorel type nozzles, permitting one to be closed 1s.

HOSE FOR SPRAY PUMPS.—Strong well-made hose for "Crescent" and "Mysto" and other similar pumps, per foot 1s. 3d.

ATOMIZERS.—Cheap and efficient implements, producing a very fine, misty spray.

"Rega" Continuous (solid brass) 9s. 6d.

"Rega," Tin (extra large) 3s. 6d.

Excelsior (Oxidised Tin) 3s. 6d.

Favourite (Tin) 3s.

SYRINGES.—In Brass, with one rose and jet, 14 x $1\frac{1}{4}$, 7s. 16 x $1\frac{1}{2}$, 8s. 6d.; 18 x $1\frac{1}{2}$, 9s. 6d.

NOZZLES.

Bordeaux—One of the most generally useful made 9s.

Mysto (Vermorel type), double swivel 9s.

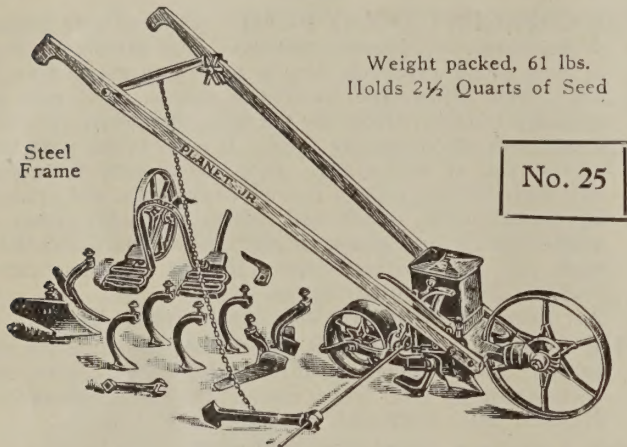
"Hose nozzle" 4s. 6d.

Gem hose nozzle, $\frac{1}{2}$ inch and $\frac{3}{4}$ inch 4s.

Spray consistently. It is easier to prevent diseases and combat them at an early stage than to deal with them when serious and widespread.

PLANET JR. IMPLEMENTS

THE intelligent use of these wonderful labour saving implements is a big factor in the successful working of market gardens, orchards, etc. Provided reliable seeds only are sown, regular and accurate planting, followed by consistent cultivation, will do more than anything else to ensure big returns. We therefore offer the following machines with every confidence. They are the strongest and most useful in the market, and have an excellent reputation for design and durability.



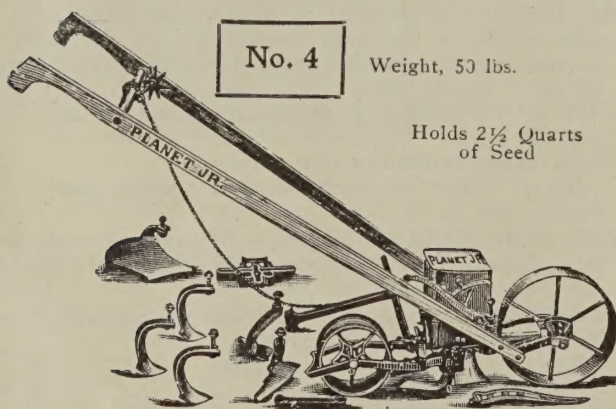
Weight packed, 61 lbs.
Holds $2\frac{1}{2}$ Quarts of Seed

No. 25

No. 25.—PLANET JR. COMBINED HILL & DRILL SEEDER DOUBLE AND SINGLE WHEEL HOE CULTIVATOR AND PLOW.

An excellent hand machine for either garden or farm. As its name indicates, it is a well designed tool, combining the functions of an efficient seeder for sowing in drills and in hills, a double wheel and a single wheel hoe, a cultivator and garden plow. It will sow almost all varieties of seeds, and this, together with its many other uses, makes it one of the most useful tools one can have.

Price on Rail or Steamer, Sydney .. £5 17 6



No. 4

Weight, 53 lbs.

Holds $2\frac{1}{2}$ Quarts of Seed

No. 4.—PLANET JR. COMBINED HILL AND DRILL SEEDER, SINGLE WHEEL HOE, CULTIVATOR AND PLOW.

This is very similar to No. 25 illustrated, and described herein, but is more lightly built and has one less each, cultivator tooth, plow, and leafguard than the larger machine. Essentially it is built for a smaller garden and lighter work than where the larger machine would be needed.

Price on Rail or Steamer, Sydney .. £4 15 0

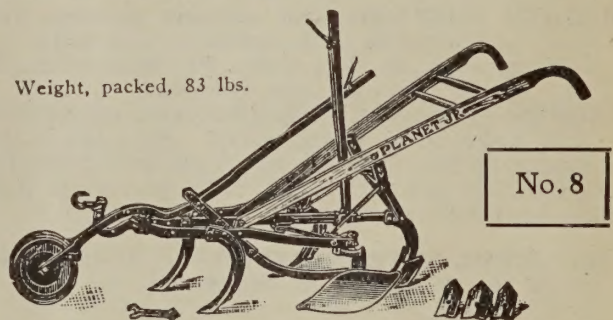
No. 8—PLANET JR. HORSE HOE AND CULTIVATOR

This horse machine is a general favourite, being complete and easily operated. Believing as we do that the more thorough the cultivation, the more sure the crop, we would like to see at least one of these implements in use on every farm and large market garden. This machine is made almost entirely of steel, well braced and adaptable to any conditions. Frame of stiff steel, extra long and high, closes to 10 inches and opens to 25. Handles adjustable, up, down and sidewise.

Cultivator teeth are of high carbon bevelled steel, thereby making them self-sharpening, and the points retain their shape, greatly prolonging the life of the steel. Patent hillers are reversible for hoeing or hilling. Can be run close to the plants without endangering the roots.

We would draw special attention to the depth regulator, which operates with the wheel lever. It is an important particular. It controls the depth and steadies the machine, and is adjusted in an instant. The solid steel wheel, having no spokes, does not clog with sticks, stones, or trash.

Price on Rail or Steamer, Sydney .. £5 2 6



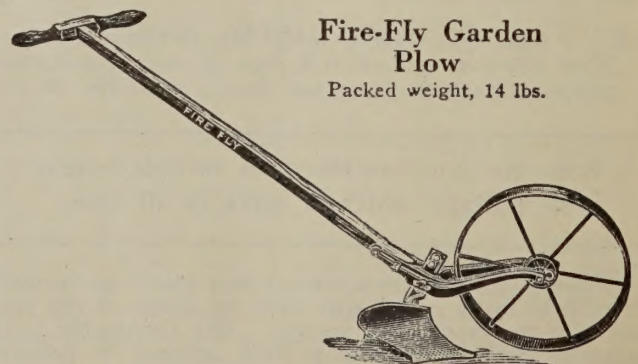
Weight, packed, 83 lbs.

No. 8

FIRE-FLY GARDEN PLOW (PLANET JR.)

This handy tool plows a real furrow four to six inches wide and up to three inches deep—deeper by going a second time. It will make furrows for manure or seed, or for setting plants, and is useful to poultry farmers for plowing up scratching yards, planting green crops, etc.

Price on Rail or Steamer, Sydney .. £1 2 6



Fire-Fly Garden Plow

Packed weight, 14 lbs.

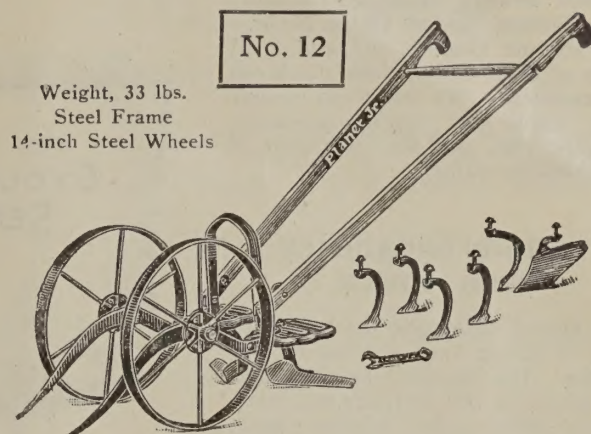
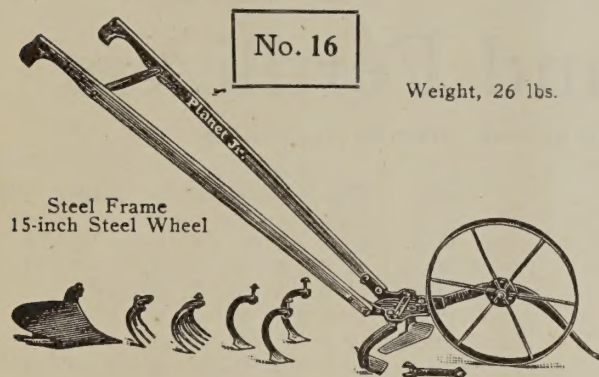
PLANET JR. IMPLEMENTS—Continued

No. 12.—PLANET JR. COMBINED DOUBLE AND SINGLE WHEEL HOE. CULTIVATOR AND PLOW.

A double and single wheel hoe in one, with high arch, so that crops can be straddled until 20 inches high—ensuring quicker and cleaner work. It may then be used between the rows with one or two wheels. Will do almost any kind of garden work—plowing, harrowing, hoeing, cultivating, opening furrows, covering and hilling, and useful throughout the season. Tools are of special design and specially hardened, giving great satisfaction and long service. The hoes are the most useful attachment and wonderful weed killers. All steel cultivator teeth for deep or shallow work, reversible ploughs for opening or closing furrows, and leaf lifters for late cultivation.

To work effectively the ground must be in a good loose and friable condition. In heavy and badly worked land the use of this implement is not satisfactory.

Price on Rail or Steamer, Sydney £3 0 0



No. 16.—PLANET JR. SINGLE WHEEL HOE, CULTIVATOR, RAKE AND PLOW.

While single wheel hoes do not accomplish as wide a range of work as the double wheel hoes, they are lighter, and for steady all-day work in the market garden or onion field, many growers prefer them. This machine can be used to hoe both sides of the row at once, while the plants are small. Special axe bolt and ferrules needed, furnished as extras. The wheel is extra strong steel and adjustable for height and depth. As a rake this machine may be used for lightly cultivating the surface when plants are just breaking through or for maintaining a dust mulch to preserve moisture. They are also valuable for preparing a seed bed. The plow is correctly designed, has a land slide and will turn a good furrow.

Price on Rail or Steamer, Sydney £2 10 0

YATES' FAMOUS BIRD SEEDS

Order them through your Grocer

WE are the largest suppliers of bird seeds in Australia, and keep large stocks of all the different varieties of seeds used by bird fanciers. The seed is all heavily cleaned and freed from dust and other impurities.

Yates' Top-Note Mixture

For Canaries, Finches and other small birds

This mixture is made up in scientific proportions and contains all seed necessary to keep cage birds in robust health. Furthermore, we vary the proportions to suit the requirements of birds at the different seasons of the year.

Yates' Parrot Food

For Parrots, Cockatoos, Parrakeets, etc.

Is made up from selected seed and grains, such as Maize, Sunflower, Wheat, Oats, Hemp, Peanuts, etc., and is mixed in the proper proportions to keep this class of birds in perfect health and plumage. This mixture ensures a varied diet such as the birds get in their wild state.

MADE UP AND PACKED IN 2LB. NETT COTTON BAGS SOLELY BY

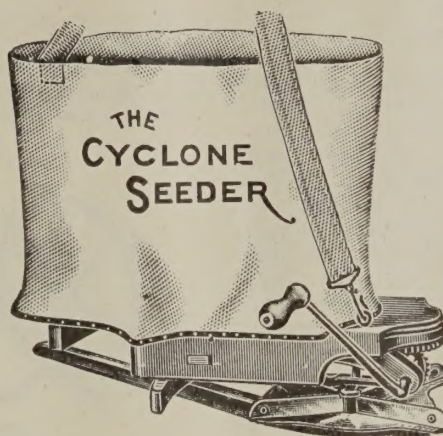
ARTHUR YATES & CO., LTD. 184-186 Sussex Street, Sydney

BROADCAST SEED SOWERS

FOR sowing broadcast Lucerne, Clovers, Sudan Grass, Millets, Pasture Grasses, etc., and small areas of Seed Grain, these machines are excellent. We use them on our own farms for sowing Lucerne, Clovers, etc., and we find them of considerable value.

CAHOON BROADCAST SEED SOWER.

A strong well-made machine capable of giving long and satisfactory service. Having filled machine and set gauge as per instructions, commence walking at ordinary pace, giving handle one complete turn each step. This will give a fine even sowing. Price, 35s.



CYCLONE BROADCAST SEED SOWER.

A very simple machine which has proved very satisfactory in service. The seed is distributed horizontally, the power being obtained by a cranked handle very conveniently placed. It has an oscillating feed agitating device and an automatic feed adjustment and shut-off. For a good, large sower that will distribute all varieties of farm seed, fertilizer, etc., this machine is strongly recommended. Price, 26s.

CHICAGO BROADCAST SEED SOWER.

A superior type of bow seeder. It differs from the Cyclone only in the manner of operation. It is operated with a steel bow through a swivel guide. Price, 26s.

Yates' Manures and Fertilizers

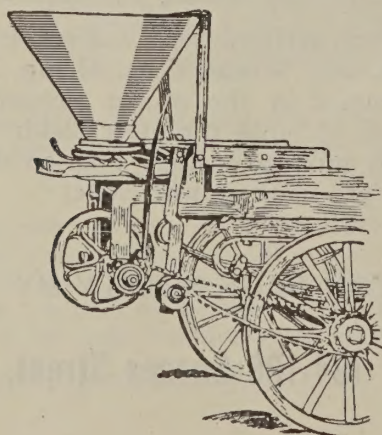
For Bag Lots or over, write for Quotations

HEAVY and continuous farm crops and good quality flowers and vegetables cannot be grown without manure. Manuring comes next in importance to physical condition of soil, which in turn is dependent on proper drainage, preparation and cultivation of land.

Ordinarily there is nothing to equal stable or farmyard manure, but for farm use it is impossible to obtain in Australia in required quantities. Artificial manures, however, have a very great value, especially if the humus content of the soil is kept up by crop rotation and green manuring. For general purposes superphosphate is an excellent fertilizer, but the following special manures are superior for their respective crops.

MANURES.	Ton.		Cwt.	56lbs.	28lbs.	14lbs.	7lbs.
	£	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Superphosphate	7	10	0	8	0	1	0
Bonedust	11	0	0	11	6	1	0
Blood and Bone	11	0	0	11	6	1	0
Hydrated Lime	11	10	0	12	6	2	6
Sulphate of Ammonia	19	10	0	20	0	3	0
Sulphate of Potash	19	10	0	20	0	3	0
Nitrate of Soda				20	0	3	0
Yates' Plant Food				16	6	2	3
A.Y. Sweet Pea Manure				17	6	2	6
A.Y. Flowers and Shrubs Manure				15	6	2	3
A.Y. Potato and Tomato Manure				16	6	2	6
A.Y. Cabbage and Cauliflower Manure				15	6	2	3
A.Y. Onion Manure				15	6	2	3
A.Y. Pea and Bean Manure				12	0	2	0
A.Y. Pumpkin and Melon Manure				15	6	2	3
A.Y. Lucerne and Clover Manure				12	0	2	0
A.Y. Maize and Green Fodder Manure				15	0	2	3
A.Y. Maize (for Grain) Manure				13	0	2	0
A.Y. Stone Fruit & Strawberry Manure				15	6	2	3
A.Y. Citrus, Passion & Grape Manure				16	6	2	3
A.Y. Special Lawn Manure				16	6	2	3
A.Y. Rape and Root Crop Manure				13	0	2	0
A.Y. Hay and Pasture Manure				13	0	2	0
Powdered Carbonate of Lime, 5s. 6d. bag							

Prices on Application



THE DOBBIE SEED SOWER AND FERTILISER DISTRIBUTOR.

As the illustration shows, this machine is mounted on and obtains its power from a horse or motor driven vehicle. All parts necessary are supplied. Prior to the advent of the seed drill, it was used extensively as a distributor for grain seeds, lucerne, etc. Wheat can be sown in a strip 60 feet wide and up to 100 acres per day. It can be used over any country where the conveyance will keep upright, which is of course quite impossible with the ordinary drill. Full particulars and prices on application.

Grass Seed Mixtures

FOR BETTER PASTURES

THE following table of Grass Seed Mixtures has been drawn up by the Agricultural Department of New South Wales as likely to do best in the different parts of that State. They are published not so much as a definite recommendation, but more as a guide to help anyone interested in working out a pasture mixture for their particular requirements.

The table should prove valuable not only to residents of New South Wales, but to the whole Commonwealth, as these Grass Seed Mixtures should do well anywhere where the climate is somewhat similar to the different parts of New South Wales. We shall always be glad to go into further particulars with any farmer who has any grass seed problems, and to recommend pastures for his own particular conditions. The quantities per acre are the lowest that should be used. In soils of fair quality or where preparation of the land for sowing has been good heavier sowings can be made with advantage.

All the following mixtures, except those containing Paspalum and Rhodes Grass, are best sown after the first good autumn rains, but plans must be formed well in advance so that the land can be thoroughly prepared (see also article on preparation overleaf). Please refer to the mixtures by number (viz., "N.C.C. 3" or "S.C. 2").

SOWING GRASS SEED.—Wherever possible, the seed should be sown with the wheat drill, mixing the seed with superphosphate ($\frac{1}{2}$ to 1 cwt. per acre). The hoes or discs of the drill should be set to run on the surface of the ground, as the seed only requires to be lightly covered; run a harrow at right angles to the direction of the drilling if the seed has not been well covered by the drill.

Where it is impossible to use implements for sowing and covering, the seed should be broadcasted in and around stump holes, dug-out rabbit burrows, among

fallen timber, or any other suitable cover, in which it will be held, and later germinate.

When sowing mixtures of light and heavy seed, only small lots should be mixed at one time, and the seed should be kept well stirred while distributing.

Where very small quantities per acre are being sown it will be found easier to do so by sowing half the seed first at half the rate per acre, thus going over the land twice. By this means errors made in the first operation may be rectified the second time over.

For NORTH COAST and CENTRAL COAST

N.C.C. 1

12 lbs. Paspalum Dilatatum
4 " White Clover

16 lbs.

N.C.C. 2

5 lbs. Rhodes Grass
2 " Lucerne

7 lbs.

N.C.C. 3

Renovations of Paspalum—Plough, Harrow, then sow as under:

2 lbs. Tall Fescue
2 " Italian Ryegrass
2 " Perennial Ryegrass
2 " Wimmera Ryegrass
2 " Cocksfoot
1 " Phalaris
1 " White Clover
1 " Subterranean Clover
1 " Perennial Red Clover
1 " Lucerne
1 " Sheeps Burnet

16 lbs.

N.C.C. 4

Renovation of Paspalum.—Where unable to plough, broadcast and harrow in the following:

3 lbs. Wimmera Rye Grass
2 " Italian Ryegrass
2 " Perennial Ryegrass
2 " Subterranean Clover
1 " White Clover
2 " Sheeps Burnet

12 lbs.

C.C. 5

The following mixture is suitable for the Central Coast only:

3 lbs. Phalaris Bulbosa
6 lbs. Perennial Ryegrass
2 " Wimmera Ryegrass
2 " Perennial Red Clover
2 " Subterranean Clover

15 lbs.

N.C.C. 6 (Heath Country)

6 lbs. Paspalum Compressum

For SOUTH COAST

S.C. 1

12 lbs. Paspalum Dilatatum
4 " White Clover

16 lbs.

S.C. 2

3 lbs. Phalaris Bulbosa
4 " Wimmera Ryegrass
4 " Tall Oat Grass
2 " Cow Grass
1 " Subterranean Clover
1 " White Clover

14 lbs.

S.C. 3

4 lbs. Cocksfoot
4 " Tall Fescue
8 " Perennial Ryegrass
2 " Perennial Red Clover
1 " Subterranean Clover
1 " White Clover

20 lbs.

For NEW ENGLAND and NORTHERN TABLELAND

N.T. 1 (Black Soil)

4 lbs. Phalaris
2 " Cow Grass

6 lbs.

N.T. 2 (Red Soil)

2 lbs. Tall Oat
4 " Tall Fescue
6 " Cocksfoot
2 " Cow Grass

14 lbs.

N.T. 3 (Black Soil)

2 lbs. Phalaris
10 " Perennial Ryegrass
3 " Cow Grass

15 lbs.

N.T. 4 (Poor quality Ridges)

2 lbs. Tall Fescue
4 " Wimmera Ryegrass
4 " Cocksfoot
2 " Sheeps Burnet
1 " Subterranean Clover

13 lbs.

N.T. 5

Old Potato Land to be rested 3-4 years:

10 lbs. Perennial Ryegrass
2 " Cow Grass

12 lbs.

For CENTRAL TABLELANDS

C.T. 1

4 lbs. Phalaris Bulbosa
2 " Lucerne

6 lbs.

C.T. 2

6 lbs. Tall Fescue
6 " Cocksfoot
2 " Lucerne

14 lbs.

C.T. 3

2 lbs. Tall Oat Grass
4 " Wimmera Ryegrass
1 " Lucerne
1 " Subterranean Clover

8 lbs.

For SOUTHERN TABLELANDS

S.T. 1

4 lbs. Phalaris Bulbosa
2 " Lucerne

6 lbs.

S.T. 2

6 lbs. Tall Fescue
2 " Cocksfoot
2 " Lucerne

10 lbs.

S.T. 3

2 lbs. Tall Oat Grass
4 " Wimmera Ryegrass
1 " Lucerne
1 " Subterranean Clover

8 lbs.

S.T. 4

6 lbs. Perennial Ryegrass
4 " Cocksfoot
2 " Sheeps Burnet
3 " Cow Grass

15 lbs.

For SLOPES

S. 1

3 lbs. Lucerne
3 " Wimmera Ryegrass

6 lbs.

S. 2

2 lbs. Subterranean Clover
3 " Wimmera Ryegrass

5 lbs.

For PLAINS

SOUTH

P. 1

2 lbs. Subterranean Clover
3 " Wimmera

5 lbs.

NORTH & WEST

P. 2

3 lbs. Wimmera Ryegrass
3 " Lucerne

6 lbs.

P. 3

6 lbs. Wimmera

PREPARE FOR AUTUMN!

Sowing must be planned ahead.

ALTHOUGH this is in the main a descriptive list of Summer Fodder Crops for Spring Planting, it is necessary to stress also at this time, the importance of planning and preparing the land well in advance to receive in the autumn sowings of Pasture Grasses, Clovers, Lucerne, etc. Considering the value and permanent nature of such crops when once established, they deserve quite as much, if not more preparation than is given to wheat lands.

Interest in Pasture Improvement is rapidly increasing and there is now a fairly widespread knowledge of the subject.

However, we would like to draw your special attention to the following:—Wimmera Rye Grass, which is being grown so successfully all over the wheat areas of Victoria and Southern and South-western New South Wales; Phalaris Bulbosa, a grass particularly recommended for tableland and coastal districts where it will withstand extremely hard, cold conditions and make wonderful growth during the winter months; also Tall Fescue, Meadow Fescue and Tall Oat Grass, which, although not usually sown alone, fill a very important need in mixtures. In addition Rhodes Grass is valuable for coastal and semi-inland districts where heavy frosts are not experienced, but it should be sown during summer and up to the early autumn.

We make special recommendations in mixtures for the varying climatic and soil conditions in this State which are set out on the back of this page and in our Autumn List of Farm Seeds, published last February, which also has full descriptions of all the varieties—copies of this booklet are still available.

Amongst the Clovers the two standard varieties, Yates' A.Y. Superfine White and Yates' Superfine Perennial Red or Cow Grass, have long since proved their value, but about the comparatively new variety, Subterranean, there still exists among farmers a great lack of knowledge. This clover has proved under exacting practical tests and in those districts where it has been grown for years in South Australia, to be of inestimable value. It is practically as hardy as the Native Burr Trefoil, and generally comes earlier and lasts longer. Under favourable conditions it forms such a mat of growth that all weed growth is choked out.

Last but not by any means least, there is Lucerne, well named the "King of Fodder Crops." Autumn is the ideal sowing time for Lucerne, and as it is to be a permanent crop, use the best seed obtainable, Yates' A.Y. Broadleaf Giant Upright strain. Do not ignore the fact that thorough preparation is just as important for Pasture Grasses, Clovers and Lucerne as it is for Wheat or Maize. Next February we will post you our new 1928 List of Farm Seeds for Autumn Planting, which will contain full descriptions and latest information.

ARTHUR YATES & CO., LTD.

184-186 Sussex Street, Sydney

Letters : P.O. BOX 2707c, SYDNEY